

THE MICHIGAN EDUCATION ASSOCIATION  
AND DEPARTMENT OF  
ELEMENTARY SCHOOL PRINCIPALS

*present*

# Implications of the Motion Picture in Education

THIRTEENTH YEARBOOK



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# IMPLICATIONS OF THE MOTION PICTURE IN EDUCATION

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## THIRTEENTH YEARBOOK

DEPARTMENT OF ELEMENTARY SCHOOL PRINCIPALS  
MICHIGAN EDUCATION ASSOCIATION

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IMPLICATIONS OF THE MOTION PICTURE  
IN EDUCATION

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## FOREWORD

IN presenting the Thirteenth Yearbook, the Editorial Committee has fulfilled the wishes of the Department in completing the second part of a two-year study on the "Implications of the Radio and the Motion Picture in Education."

While it is an accepted fact that the motion picture is now a powerful educative factor, schools are still groping for ways and means of directing its effects toward more desirable ends.

In recent years there has been a tremendous increase in the number of schools equipped to use motion pictures and the supply of educational films has grown apace, but the great majority of schools are still searching for the most effective utilization of this wealth of material. To all such "searchers for truth" we commend this volume.

The Twelfth Yearbook, *Implications of the Radio in Education*, met with an enthusiastic reception and the present volume is certain to be as popular, since it meets a very real need for a better understanding of how the motion picture may be utilized most effectively.

The Thirteenth Yearbook committee is composed of principals who have had extensive experience in the field of motion picture production and use. Their experience qualifies them for the task that was assigned to them and the resultant volume is both practical and informative.

The Executive Board of the M.E.A. Department of Elementary Principals takes this opportunity to express its appreciation to the Editorial Committee for the production of a Yearbook that reflects credit upon the entire organization.

GLENN LOCKWOOD, *President, 1939-41*

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## How This Book Was Written

IT may be of interest to the readers to know something about the procedures in preparing *The Implication of the Motion Picture in Education*.

Preliminary discussions concerning the content and general structure of the book were begun about a year ago and continued early into the fall of 1940. Tentative outlines evolved in these meetings were submitted to educators for suggestions and criticisms. With this help, plans for revision were worked out by the committee, and the structure of the book was essentially complete.

By this time the group had developed a feeling that the "symposium" type of yearbook would not present adequately the ideas the committee felt should be in the yearbook. As the result, the committee decided to have the yearbook written by its own personnel.

To accomplish this, rough preliminary drafts were prepared, setting forth in some detail the ideas accepted by the committee as being important in the field of the book. Various chapters and parts of chapters were chosen by individual members to be written in final form. These drafts were assembled, revised, and put into mimeographed form. It was possible to secure detailed suggestions and criticisms from other interested people in the field of education, and accordingly, fifty copies of the book were carefully read by school people in the state. Most of their suggestions and helpful criticisms have been incorporated in this publication. Many merits of the book are a result of the help of these people, to whom the committee wishes to acknowledge its debt of gratitude.

Throughout its functional life the committee has acted as a unit. This book involves more than a mere composite of ideas, for the committee, with its many-sided viewpoints on the role of movies in education, soon discovered that many ideas presented in this book achieved their final form as a result of an interplay of the ideas of individual committee members. In that sense, this book is a product of group thinking. It can safely be said that the book was collectively written.



# Focus

THE development of the motion picture has, for the most part, been in the theatrical field, an area largely concerned with satisfying the entertainment needs of adults. The educational possibilities were apparent from the beginning. It was in education that Edison foresaw the greatest use of his device. However, the ample financing available and the ready acceptance of things new in the entertainment field contributed to rapid development of the motion picture as a medium of entertainment, while in the educational field the lack of funds and adherence to tradition were responsible for a slow and incomplete use of this valuable tool in classroom procedures.

*Accepted  
Slowly*

Because the theatrical development of the motion picture has overshadowed the educational development, the prevalent pattern of thought concerning movies has been formed through the theatrical film. Traditionally, education has been the antithesis of entertainment, which probably accounts for the reluctance of a large number of people to accept the motion picture as a valid educational tool. Fortunately, psychology has shown that although pleasurable and vivid experiences are not *per se* educational, educational experiences that are pleasurable and vivid are made thereby more educational. Moreover, the layman is becoming convinced that education need not be distasteful to be effective. The appearance of increasing numbers of films for the classroom, designed purely for educational purposes, has helped to develop further the concept of the motion picture as a medium of education as well as entertainment.

Although moving pictures as we know them are of recent origin, the present stage of development is the result of the long groping search of man for a means by which he could better express his ideas graphically. The following chart, adapted from *Visual Education*, Department of Elementary School Principals, N.E.A., 1940, illustrates this:

*Growth  
of Movies*

### *Shadow Projections*

**Pre-historic** man projected animals and birds on the walls of his cave by campfire light using hand-shadow silhouettes.

**For thousands of years** the orientals have entertained and given religious instruction to their tribesmen using shadow projections on a curtain by the use of puppets.

**1000 B.C.** Emperor Muh (China) brought the shadow puppets into his court.

**1592 A.D.** Comenius produced his "Orbis Pictus."

**1640.** The "Magic Lantern" appeared.

**1839.** Louis Daguerre discovered the action of light on silver iodide.

**1892.** Demeny invented the "Chornophotophone." Emile Reynaud displayed in Paris a broad film in color called "Pierrot, Harlequin, and Columbine" (A little fantasy).

**1894.** Edison combined his phonograph and kinoscope and called it his "Kinetophone," a kind of "peephole" projector.

**1896.** Birth year of the "Armat Vitascope." Belis, Kleine, and Spoor had embarked upon their film careers.

### *Electric Eye*

**1901.** Ernest Ruhmer invented the selenium cell, magic eye, or photo-electric cell (important in sound movies today).

**1903.** Melies' efforts—Bicyclists rode up sides of buildings and took a turn around the rings of Saturn.

**1904.** Bell used a selenium cell in his "radiophone."

**1905.** R. W. Hartman improved the "Photophone."

**1909.** Kleine, Selig, and Spoor prepared educational film catalog.

**1913.** Elias Ries developed variable density and variable area sound track.

**1921.** Joseph Engl submitted "photographic sound."

**1922.** Alert educators were showing an interest in the possibilities of educational movies.

**1923.** T. W. Case improved apparatus. Lee DeForrest invented "Phonofilm."

**1926.** Eastman Teaching Films, Inc. offered 16 mm. silents for education.

**1926.** Warner Brothers and Western Electric Co., introduced the "Vitaphone" (record synchronized with film). George Abbott—Initial Experiments on Sound. Beginnings of Sound Films.

### *Advent of Sound*

**1927.** Fox-Case "Movietone" (sound track on film itself) was introduced in many theaters.

**1929.** Radio tubes came into play to amplify sound. ERPI started making instructional sound films specifically for classroom use, largely in sciences.

1932. 16mm sound-on-film became available.

1937. Motion picture camera invented to photograph 10,000 frames per second to study (by slowing down) action impossible to observe by naked eye.

1939. Advent of the artist-cameraman director, resulted in the production of such outstanding films as *Mexican Children and Pueblo Children*, and such integrated films [combining art-drama, which is true purpose of the film] as the *Adventures of Chico* and *Amoeba to Man*. Eastman made available for duplicate prints in kodachrome color process such outstanding films as *Marshland Mysteries*.

A decade and a half ago movies were being used in a few classrooms; only a little later were classroom silents in production.

Slightly more than a decade has elapsed since sound was coupled with educational pictures; just recently color has been added; and even today the leading educational film producers have only a *limited* number of films on the market, and it is doubtful if sales on many of these are reaching to numbers that are commercially very significant. Other significant trends are the advent of numerous new producers and the release of educational materials originally produced for the theater.

When compared with other instructional aids, the motion picture, in terms of its classroom potentialities, is now becoming a part of accepted school procedures. Out of 82,297 schools reported on a survey of the United States made in 1936 only 6074 had 16mm silent projectors and 458 16mm sound projectors.<sup>1</sup> If current data were obtainable it would undoubtedly show a tremendous increase in the number of projectors available today. To supply these projectors with 16mm educational motion pictures, some cities have their own libraries. In addition, we find that many states have centralized film libraries a number of which have recently been organized. The whole motion picture industry is not old, but the developments which have tended to make the motion picture practicable for classroom use are still more recent.

The present 16mm film has been in standard use for only about fifteen years. This outstanding innovation ranked high

*Slow Motion  
and Color*

*Classroom  
Films  
Relatively  
Recent*

*Use  
Increasing*

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<sup>1</sup> Koon, Cline M., and Noble, Allen W., *National Visual Education Directory*, p. 12.

*Why  
16mm?*

in importance in making the motion picture practicable for schools. This 16mm size is available only in an acetate, non-inflammable film, eliminating the possibility of using the nitrate, inflammable film, as used in most thirty-five millimeter or theatrical size film. The 16mm films and equipment are lighter, less expensive, and easier to operate. The relatively lower cost of the 16mm film and equipment opened the amateur field which in turn served to lower the cost of equipment. Recent developments in color, sound on film, and methods of processing film have still further increased the usefulness of the 16mm motion picture in the classroom.

*Field  
Rapidly  
Expanding*

Better and more educational films are being produced, new libraries are being established, more schools are being equipped, a greater number of teachers are becoming aware of the teaching possibilities of the film, and indications point to the increasing importance of the motion picture as a teaching tool.

*Aid  
Teachers*

Studies that will be mentioned in subsequent chapters have shown the effectiveness of the motion pictures as an instructional tool. The recent developments in photography, film production, film processing, and projection equipment have placed at the disposal of the alert teacher a practicable and effective means of teaching which can vitalize education, particularly in certain fields. The teacher who fails to utilize this medium is passing by an opportunity to increase his own effectiveness.

# Influence

THAT the motion picture exerts an important influence on children and adults is an accepted fact. In some countries the motion picture is strictly regulated and controlled by the state. In this country the existence of controls of some sort demonstrates that we also have a recognition of the motion picture's power to influence the thinking and action of people.

*Governments  
Recognize  
Movie Value*

The Payne Fund studies<sup>1</sup> of the influence of theatrical movies on children's emotions, attitudes, stores of information, patterns of morality, and other phases of behavior revealed interesting facts. The studies confirmed the belief that the motion picture was a powerful medium of education. It showed that children learn a surprisingly large number of facts from motion pictures, and remember them a surprisingly long time. They demonstrated that the movies produce a change in attitude toward social problems, and that they powerfully stir the emotions. They showed that they provide patterns of behavior in daydreaming, phantasy and action. All of these outcomes have their importance in modern schools where social as well as factual outcomes are desired.

*Theatrical  
Movies  
Affect  
Behavior*

That the motion picture is effective in teaching facts is attested by the studies of Knowlton and Tilton.<sup>2</sup> In their studies of the use of films in history instruction, among other things, they found that the motion pictures increased learning about 19 percent; that average children with films learned as much as did brighter children without films; that knowledge of inter-relationships involving interactions of events and forces increased 35 percent with the use of films; that knowledge of historical personages increased 32 percent more; that pupils not only learned more through films but retained more for longer periods; and that the pupils were stimulated

*Increase  
Learning  
of Facts*

<sup>1</sup> Forman, Henry James, *Our Movie Made Children*.

<sup>2</sup> Knowlton & Tilton, *Motion Pictures in History Teaching*, p. 90.

to greater participation as shown by their question-asking and other voluntary contributions to the class.

*Promote  
Discussion*

In science teaching, an area of instruction especially adapted to the use of motion pictures, Rulon<sup>3</sup> found that pupils using films not only learned more but also retained a larger portion of what they had learned. A further significant finding of Rulon's was that not only was there a 35 percent increase in pupil achievement on items specifically covered by the film used in a lesson, but there was also a 20 percent increase in achievement in the general material studied during the period, such as the material in the text and the discussion of pupils and teacher. Rulon also states that these gains were not at the expense of other desirable "educational values such as good habits of thinking."

*Stimulate  
Reading*

The conclusions of Rulon are substantiated by the observations of Bean<sup>4</sup> of the University of Chicago. Bean says "... the inauguration of this type of course has been a very definite confirmation of the fact that non-reading tools—the movie, the demonstration, and the museum—greatly stimulate the students' interests in wide reading in scientific literature of all sorts.... a careful study of the reading habits of Chicago students in the dormitories of the University.... indicates that this reading carried over into extensive general reading which was not prescribed in the heavy reading requirements of the courses." It seems evident that we read with reluctance about that which we expect to see but with relish about that which we have seen.

*Affect  
Attitudes*

Experiments by Thurstone and Peterson<sup>5</sup> showed the effects of motion pictures in attitude building. They assert that the motion pictures have a definite, lasting effect on the social attitudes of children and that the number of pictures pertaining to the same issue may have a cumulative effect on attitudes.

The totalitarian nations have made effective use of the motion picture to play on the emotions of their peoples and to

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<sup>3</sup> Phillip Justin Rulon, *The Sound Motion Picture in Science Teaching*, p. 87.

<sup>4</sup> Donald Bean, *Books vs. Movies, Phonographs, and Radios*. *PEABODY JOURNAL OF EDUCATION*, Vol. XVII (Jan. 1940).

<sup>5</sup> Ruth C. Peterson and L. L. Thurstone, *Motion Pictures & the Social Attitudes of Children*, p. 66.



build social attitudes favorable to their various forms of governments.

As to those who may worry about the passivity—more apparent than real—in the movie viewer, the findings of Rulon and Bean should dispel their doubts. The question of degree of passivity while viewing a movie may be debatable but that action results from viewing seems to be an established fact. The theatrical movie goer may sit passively during a film showing but that he is spurred to action, desirable or otherwise, is shown by the findings of such investigations as the <sup>6</sup> Payne Fund studies. Likewise it has been demonstrated that the well prepared classroom film can also stir the student to participation in desirable activities.

*Passivity  
only  
Apparent*

The rapport with which a very young child watches a movie is seldom realized. Children who cannot yet read will often laugh uproariously at titles of a silent movie as they flash on the screen. The observer is at first at a loss to know the cause of the mirth. More artful observation soon reveals that the children sit in rapt attention making only an occasional exclamation, but the appearance of the title breaks the rapport and they give vent to sighs, laughs, and exclamations. The reappearance of the picture on the screen again brings silence and complete attention. The fact that this can be observed when showing movies of little or no emotional appeal is a strong indication of the attention getting power of the movie.

*Attention  
Compelled*

Simulation of reality, one of the characteristics of the movie, receives heightened effect in the very circumstances under which the pupils use it. According to Hoban, Hoban, and Zisman,<sup>7</sup> "... the movie audience sits in a darkened room and merges into a total situation.... (the individual) loses contact with those about him... (he) blends into the movie situation... and becomes an interested observer lost in space. This condition is clearly evident with the young child who has not so clearly differentiated the boundaries of reality, of the self, and the social world. In an exciting screen situation, the youngster participates overtly in an experience of reality which is physically merely an illusion." Those who

*Child  
Merges  
With Movie  
Situation*

<sup>6</sup> Henry James Forman, *Our Movie Made Children*, p. 223.

<sup>7</sup> Hoban, Hoban, and Zisman, *Visualizing the Curriculum*, p. 95.

have watched children's reactions during a movie will concur in this observation.

*Potency  
and Dangers  
of Selection*

Hoban, Hoban, and Zisman<sup>8</sup> also point out that the "Continuous stream of experience derived in relation to situations involving action, interaction, and interrelationships" adds to the effectiveness of the motion picture. "This experience is greatly heightened by the selectivity of the pictorial arrangement—by the condensation of time in motion picture, by careful selection of details and situations, and by the avoidance of those elements which either distract from the desirable impression, mood or other effects striven for, or which fail to advance the main theme toward these effects. In this very aspect of the motion picture lies one of its greatest dangers to education. It portrays only those social phenomena, those situations, those activities, etc., which the director wishes to portray."

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<sup>8</sup> Hoban, Hoban, and Zisman, *Visualizing the Curriculum*, p. 95.

# Utilization

**S**UCCESSFUL utilization of the motion picture as an instructional tool depends upon whether or not the teacher recognizes what it will do best. It would not be desirable to use a movie when some other device would be as effective and at the same time less expensive. There are, however, characteristics of the motion picture which are unique.

*Unique  
Characteristics*

The most obvious asset of the motion picture is its power to depict ACTION. Still pictures can only suggest it. In a world of change, a world of motion—industrial processes, transportation, biological growth,—the action shown by the motion picture lends to instruction the most realistic method available in vicarious educational experiences. Within the limits of the classroom, the motion picture offers an opportunity to present in a non-verbal form material which is not easily available for educational use—action which in many cases can be produced only once, such as rock blasting, piling up of water behind a dam, launching a ship; or action reproducible, but not handily so, in the classroom, such as making steel, cultivating corn, building a house. The movie can be a kind of “canned” field trip both for events transpired and events transpiring.

*Shows  
Action*

But not all motion is observable motion. Here lies a uniqueness in which the movie excels even first-hand observation. Some motion is too fast for the eye to grasp its details, only the gross motion is then seen. The flapping of a bird's wing, the operation of levers in a machine, the graceful leg movement of a jumping frog—these rapid movements can be studied by children through the slow-motion picture which “stretches out” time. To see a duck fly off the water reveals, through the slow-motion technique, that it literally walks a few steps on the water as it gets into flight. To see the flying shuttle of a power loom in a slowed-down movie version of weaving shows what actually happens as the bounding levers fling it back and forth through the extended warp.

*Slows  
Motion*

*Accelerates  
Motion*

Motion also can be speeded up. Clouds can form or disappear, flower buds can open, seeds can sprout in front of the pupils' eyes by the use of time-lapse photography. Here time is condensed; long-time movements are telescoped into a few seconds. In this manner the motion picture reveals clearly motions that observation shows are going on but are happening too slowly to be seen.

*Enlarges  
Where  
Needed*

The movie also is helpful in the realm of the minute and the near-infinite. Microphotography can show for a whole class the teeming life in a drop of pond water or can depict blood cells surging through minute capillaries. These, and other microscopic actions, are ordinarily observable to merely one student at a time and then only to the technically skilled. The movie technician can record them for all to see. On the other hand, astronomical movements of heavenly bodies, sometimes in large magnification, can be shown to pupils without such elaborate equipment as telescopes or planetariums.

*Animation  
Clarifies*

But some movements because of their location, transparency, or complexity cannot be photographed. Here the process of animation—the same process that is used in making movie cartoons—can demonstrate action and show relationships that can be pictured in no other way. The growth of a pollen tube during plant fertilization, the exchange of carbon dioxide and oxygen in leaves, the eating of a cotton bud by a boll weevil—these are examples of actions that can best be shown through animation. This is a device peculiar to the motion picture. The animator also has at his disposal devices such as moving arrows, growing graphs, changing lines, and other artist's tricks which, though not a part of the action itself, can focus attention and clarify points in the picture which might otherwise be obscure.

*Enlarges  
Miniatures*

Photography of miniatures plays its part, too. Some actions in nature—for example, the erosion of land by rivers—happen on too large a scale, or are known to have happened too slowly, to be recorded by any direct photographic method. These same actions, however, can be reproduced in miniature and recorded in the motion picture. In this manner a class can see what ordinarily it could only read or hear about.

In addition to these unique characteristics of the motion picture, it has double exposures, fade-ins and fade-outs, com-

*posites*, *photomontage*, and parallels, each of which may be used when needed to heighten the effect the film-maker wishes to produce in the observer of his product. Further, the camera's mobility and the film editor's selection of scenes, make possible the long shots, close-ups, angle shots, and panoramas which the film editor may select to add artistry as well as emphasis to ideas in the film. In doing this he can build up rhythms which contribute to the total impression.

As if these possibilities were not sufficient, the movie-maker also has at his disposal the use of color and sound. Color not only adds interest but in many instances better conveys an impression such as the pupil would receive from first-hand observation. Studies of flowers and fruits, costumes of people, undersea life, steel making—these are but examples of how the colored motion picture increases the “reality” of the film's contents. Sound—sound that is natural, or better in some cases, selected important sounds—adds another sensory approach that can make the motion picture the powerful educational medium that studies have shown it to be.

No film, educational or otherwise, is likely to utilize exclusively any one of the characteristics enumerated. All may be used as the need arises to clarify particular points. In fact, most educational motion pictures are “straight,” dealing, as would an actual observer, with ordinary movement.

Underlying all these characteristics which make the motion picture an excellent instructional tool lies the one of continuity. The movie producer can select and, in the final picture, hold in logical order a whole chain of events in a process; he can eliminate extraneous incidents that might obscure the important action from the non-technical or unpracticed observer. In natural science, social-science, industrial processes, and many other fields the motion picture can bring situations to the classroom in a manner which could be duplicated only at prohibitive effort and expense.

#### TYPES OF FILMS

Knowing the characteristics unique to the film, it is also helpful to consider what these films can do. According to Hoban<sup>1</sup> “Films used in instruction fall into seven overlap-

*Color and  
Sound  
Increase  
Realism*

*Holds Ideas  
in Logical  
Order*

<sup>1</sup> Hoban, Hoban, Jr., and Zisman, *Visualizing the Curriculum*. p. 121.

*Film  
Types*

ping classifications: (1) those demonstrating a process, (2) those demonstrating a skill, (3) those dramatizing some event, (4) those produced to explain some industrial product, (5) those having emotional emphasis, (6) those documenting some social situation, and (7) those intended primarily to furnish background." Other classifications might be added to this list. These types are not exclusive, but a general recognition of them is necessary to avoid the pitfall of using what might be primarily a "skill" film to teach social values which might not even be treated in the film, except by implication. Many of these types may be present in a single picture although one of them may be predominant.

## ADVANTAGES OF SILENT FILMS

*Cheaper*

1. Silent films in general are less expensive than sound films for either purchase or rental. Projectors good for silent films only can be purchased at one-fourth the cost of sound projectors. Sound films *never* should be run on a silent projector, but silent films can be run on sound projectors.\*

*Can Vary  
Comment*

2. The running comment can be furnished by teacher or pupils in a silent film. In this way the discussion can be fitted to the needs of the individual class, and can vary with different classes.

3. More color films with *good* color are available in silent educationals than in sound.

## ADVANTAGES OF SOUND FILMS

*Meaning  
of "Sound"*

The term "sound" as applied to films covers a multitude of sins, and before coming to any conclusion one should be sure what is meant by a sound film. Many so-called sound films are merely old silent films with a music score dubbed on to give some kind of audio expression. Others have a running comment dubbed on, without effort to key the comment to the picture. Neither of these are sound pictures in the full sense of the word. The simplest form of the real sound film has only a running commentary, but this comment is synchronized with the picture and explains and discusses the sequences on the screen as they appear. The most valuable sound films for educational purposes are those that have au-

\* This statement is made on the basis of present equipment in the field.

thentic sound as an integral part of the pictured situation. In *Children of Holland*, for example, the children speak in the Dutch language, and the audience hears the Dutch wagon rattle over the cobblestone streets.

*Adds  
Realism*

1. Sound gives to a picture a two-fold vicarious experience—both action and natural sound at the same time. Obviously this increases the mental reaction and subsequent effectiveness of the experience.

2. Better explanations may be expected in sound films because producers can secure authorities to provide the commentary on the subject matter of the film, and with the comment keyed to the development of subject on the screen, better understanding should result.

3. When sound films are used, printed explanations and titles are unnecessary. This furnishes an obvious advantage for slow readers. One Michigan school found a group of slow sixth grade readers showing as much gain in informational knowledge as a group of average readers in a test-study-test showing of the sound film, *The River*.

*Slow  
Readers  
Benefit*

4. Children who are familiar with sound films at commercial motion picture showings have a better attitude of readiness when they prepare for a showing of a sound film. There may be a "let-down" in motivation when a silent film is used, or it may seem a little cheap or old-fashioned. However, during the actual showing of the film most children are not directly conscious of factors such as sound or size of the picture.

*Pupils  
Expect  
Sound*

#### ESTABLISHMENT OF CRITICAL LEVELS ON THE PART OF THE TEACHER

Teachers must, through experience, set up criteria for evaluating pictures to be shown to children. These values cannot be set up arbitrarily and listed in any book. They differ as teachers differ, as communities differ, and as opportunities differ. But certain generalizations may be drawn for the direction of teachers who desire to improve their discrimination in use of films for children.

1. Teachers must set up criteria for *selection* of films. In what units will films be used? For what purpose will they be used in the units? What films will be used? How will they be used to attain desired objectives? Answers to these ques-

*Selection  
of Films*

tions call for discrimination which tends to establish criteria for evaluation.

*Preview  
Necessary*

2. Very important is the evaluation of the educational film at the *preview*. Here the teacher must determine if the film is valid. Are all the details accurate? Is the sequence complete, or does it leave gaps to be filled in by supplementary reading? Does it contain propaganda? Is the propaganda harmful? Does the film have implications that might be harmful? At what age level will its content be effective? For what grade level is the vocabulary suitable? Does it contain too much advertising? In short, the teacher must evaluate it as a teaching medium to be presented to wide open minds on which even subtle implications may have a lasting effect.

*Pupils  
Can Help*

Skill in this type of discrimination can be achieved only through practice. Through evaluating many films one unconsciously sets up criteria for evaluation. This leads to discrimination. To this end teachers should plan cooperative previews when several teachers who may use the film, preview, evaluate, and plan together for its use. A few selected pupils from the groups to whom the film may be shown should be included in this cooperative preview. This will supply the pupils' point of view at the preview and at the same time the pupils will receive an opportunity to develop discrimination themselves.

#### ESTABLISHMENT OF CRITICAL LEVELS ON THE PART OF THE PUPILS

*Pupils  
Develop  
Criteria*

Children, like teachers, set up certain criteria by which they evaluate the films they see. Every time a child says a picture was "swell," he implies that by his standard of evaluation it ranked high. (All too often he does rate it high.) Every time he vicariously lives the life of his screen hero through the episodes of a "horse opera" and enjoys it, he is evaluating according to a criterion that he has set up. Practice makes perfect, and the more he evaluates, the more definite become the criteria, though not necessarily better if there is no direction. Now, the school showing offers the same opportunity for developing evaluation and discrimination, plus opportunity for teacher direction. Over and above the informational values, the skilled teacher will watch for oppor-

*—and  
Schools  
Should  
Guide*



tunities to lead children to develop effective criteria for appreciations.

1. Children can easily be led to discover good and bad features of acting in any film. A group of middle grade children viewing a silent version of *Last of the Mohicans* laughed loudly as the soldiers were killed in battle. The acting, or lack of it, warranted the reaction. A play for sympathy on the part of George Raft in *Spawn of the North* left fifth and sixth graders unmoved as they felt it was overdone. They had developed a criterion of their own for evaluation of acting.

*Judgment  
of Acting*

2. Children enjoy looking for techniques of production. Montage, angle shots, panning, fade-outs, and slow motion are all terms in common usage in schools where appreciations are taught. Every film seen has greater meaning because of these interpretive experiences. Here children have established another criterion.

*Knowledge  
of Movie  
Techniques*

3. Children, through experience, become sensitive to backgrounds and settings. They learn to evaluate accuracy in historical settings. Thus, another step in discrimination is taken.

4. Small children who see the film threaded into the projector, who handle a piece of the film and understand that this strip is the source of the picture and sound, develop an appreciation through those experiences that helps to interpret all they see and hear on the silver screen. They grow through experience to become sensitive to the sound and photographic qualities of a picture. Thus another criterion for evaluation is added.

*Familiarity  
with  
Equipment*

5. Children learn through cooperative previews to evaluate the amount and kind of advertising in a film. When it was suggested that a certain film contained too much advertising, a group of Fifth Grade children brought paper and pencil and tabulated references made to the sponsor's product. They found sixty-five, and exhibited another phase of critical evaluation.

*Sensitivity to  
Advertising*

While the primary function of educational pictures will always be the contribution they make to information and attitudes, they still may be used as a medium for the development of general appreciations for all values presented in activities with motion pictures. Schools that make any use what-

*"Carry-over"  
of Criteria*

ever of feature or entertainment films have an excellent opportunity to teach evaluation, discrimination, and selection. One Michigan school of six grades experimenting in this field has raised the percentage of "approved" pictures which children elect to see at local theaters from 40 percent to 90 percent.

*Movie  
Appreciation  
Valuable*

Are these experiences valuable? Does one enjoy a museum exhibit more if he is informed as to the backgrounds and if he has criteria for comprehensive understanding? Can one vote more intelligently if he has learned to interpret the issues and knows their significance? The answer is obvious. Why shouldn't children develop appreciations for the motion picture as they develop appreciations for the work of the postman, the policeman, and the fireman?

#### SOURCES OF EDUCATIONAL FILMS

Any list of film sources is likely to be only a partial one because new sources are constantly appearing. The number of films having value in education is considerably greater than any school could possibly use. The problem then becomes not only a matter of what films are available but which films should be used. Availability only is being considered here.

*Schools  
Should  
Study  
Sources*

Any school interested in the use of motion pictures should start at once compiling its own list of film sources. A postcard to any "educational" film producer or distributor will usually be sufficient to secure a list of their offerings. Leads as to whom to address may be obtained from the catalogs listed below as well as from the perusal of current educational magazines many of which maintain film departments.

Two well-known catalogs of the "directory" type, and obtainable on a subscription basis, are:

*Directories*

*Educational Film Catalogue.* The H. W. Wilson Company, 950 University Avenue, New York City.

*1000 and One, the Blue Book of Non-Theatrical Films.* The Educational Screen, 64 Lake St., Chicago, Ill.

Some sources of films have prints that are for sale only. The purchase of films by schools with only a small number of annual showings is usually not possible. Such schools must depend on rentals or "free" films.

The Bureau of Visual Education, Extension Service, Uni-

versity of Michigan is a helpful source of educational motion pictures for Michigan schools. Membership in the plan—a cooperative venture—may be taken out by any school.

Additional sources are various departments of the State and Federal government such as the Michigan Department of Conservation, the United States Department of Agriculture, and many others whose addresses and offerings will be learned as the teacher and principal acquire catalogs and folders.

*Government Offerings*

Some of the governmentally distributed films deal with industrial processes and products. Many similar films may be obtained directly from industrial organizations. Much fine—and some not-so-fine—material is available for educational purposes.

*Industrial Sources*

Another\* source of films, both of an educational and an entertainment nature, is from companies and foundations who offer 16mm reductions of prints originally produced for the theater. These may be selected or edited excerpts adapted for some educational use. Teaching Film Custodians, Inc., and The Commission on Human Relations of the Progressive Education Association are examples of sources of these types of films.

*Excerpts of Theatricals*

It should be kept in mind by potential users of educational motion pictures that there are many kinds of films available for purchase, rent, or merely for transportation charges. Some are out-and-out advertising; others are more subtle, but none-the-less potent in creating their predetermined effect; and some are of a highly educational nature. Careful selection and conscientious policies of previews plus *experience* will soon develop in the interested principal and teacher a background of knowledge about suitable educational pictures. It is important and helpful to keep in mind always the purposes for which the motion pictures are being used—for education.

*Need for Careful Selection*

#### METHODS OF USE

If a teacher and a principal know what a film can do, the next problem to consider is how that film can best be used for instructional purposes. Overlapping problems of utiliza-

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\* Further information concerning films—"free," sale, or rent—is presented in the partial list contained in the appendix.

tion and administration immediately present themselves. For the purpose of this book they will be dealt with separately. Problems of equipment, film sources, projector operation, and building arrangements are considered in other sections.

*Just Seeing  
Is Not  
Enough*

Motion pictures, like other instructional tools, should have the most effective method of use. Just to assemble the school in the auditorium to see a picture is one form of use, but a poor one for instructional purposes. It should be recognized that most school use of movies started in just this way, and it is important to get started. However, for schools to continue to use films on this level shows a lack of progress. Every effort must be made to achieve the highest type of utilization possible.

*Where to  
Show Movies*

Films may be shown in the classroom, if they meet the needs of only an individual class; or a school may have one room provided for satisfactory projection, to which groups may be moved to view the film. If the film meets the needs of a large proportion of the school, an auditorium showing would serve the purpose. If both types of facilities are present in the school, then all films can be fitted to the educational pattern of the school so as to satisfy the greatest needs of the greatest number.

*Film an  
Integrated  
Unit*

With the trend that is apparent in education today, the developing of more integrating experiences in the classroom, the teachers and pupils will find more use for the motion picture, because, by its very nature, the film tends to present a situation that is complete in itself. For example, a film on the manufacturing of automobiles when used in an auto mechanics class would show how cars are made; the same film in a social science class might be used to show the effect of these jobs upon the workers; and in a geography class would demonstrate from what parts of the world came the materials that went into the automobile. In an integrating situation all these things are studied in their entirety, and the relationship between all phases of automobile and production is better understood.

*Objectives  
Vary*

Often a film will lend itself to both auditorium and classroom showing. The objectives served, however, would be different in each type of showing. The classroom showing would be curricular, and would fit into the pattern of the

developing unit of activity in just the same manner as would any good teaching material.

The examples given at the close of this section are excellent illustrations of the curricular use of film showings. Before showing the film, *Farm Animals*, the teacher had spent considerable time preparing the children for what they would see in the film. They had reached the point where the film was necessary for further development of the unit. They were in complete readiness for what the film had to offer. Following the showing of the film they engaged in further activities and discussions that called for a second and third showing of the film. The use of the film was as definite a learning experience as the reading and the clay modeling. As these experiences were confined to this particular group, so the film program would be a class showing with this group alone as the only audience.

*Curricular  
Use*

But the information contained in the film might be of secondary importance to other groups in the building. A Fourth Grade class in social studies which was working on farming as one of the basic industries would be helped by the film. A Third Grade group reading certain parts of "Centerville" would be helped by the film. A sixth grade geography class studying farming in Australia would receive benefit also. To them the content would be illustrative, and the values gained by its use would be cultural. In this case an auditorium showing would be justified, and invitations sent to all the groups that would find the film helpful. The teachers concerned should pre-view the film and the children should be given a general preparation for the showing. Discussions should follow, and the information gained should be tied definitely into the activities to which it is so closely related.

*Cultural  
Use*

Many of the films ordered for curricular uses in certain rooms will in this manner have effective cultural values throughout the school. In general, it may be said that classroom showing and re-showing will be the result of planning for curricular values, and the auditorium showing will be planned for related cultural values.

Within the limitations imposed by film resources and projection procedures, the teacher is faced with how best to

*Principles of  
Effective  
Utilization*

utilize the film to achieve the desired results. Obviously these purposes condition to some extent the procedure to be followed, but knowledge of certain general procedures ought to prove helpful.

*Need  
for  
Selection*

The first principle of effective procedure in the use of films is **SELECTION**. Films are chosen for the purpose they will serve in the large educational pattern of a school or a room. Therefore they must be chosen in reference to this pattern. Before the close of school in June the teacher must consider the units she will teach during the next school year. She must decide in which of these units films will be desirable, for there are some phases of learning that need slower development than is allowed by the rapid sequence of a motion picture film, and other educative material will be more suitable. She must decide what films are available that fit the needs of the teaching involved in the units to be taught. The time sequence of the units must be determined, too, in order that bookings can be made before September 1 for the entire school year. Where schools have their own film libraries more flexibility in bookings may exist, but the same basic procedure of selection still applies.

*Value of  
Placement*

The second principle in effective procedure is **PLACEMENT**. Where should the film fit into the educational pattern of the unit, will it be used to introduce, or illustrate, or supplement, or summarize? As each of these uses of the educational film lends itself to a different pattern of thought on the part of the pupil, so each will have its particular manner of presentation. Teachers with experience in the use of educational films know that the placement of the film in the sequence of the unit demands much more consideration than, "Today we have a film."

*Importance  
of Preview*

A third requirement in effective procedure is the **PREVIEW**. In any teaching situation teachers cannot effectively direct pupils to books for outside reading without some familiarity with the content of books. It is even more necessary that the content of a motion picture be known because of all the implications of sound, motion, and meaning that pupils may read into a projected film. The teacher should know this content of the film to determine her procedure, to prepare her class to utilize the educational value in the film, and to

create the readiness on the part of the class that will insure the greatest educational return in information and attitudes.

A fourth principle of good procedure is EFFECTIVE PROJECTION. If selection, preparation, and preview have been well done, projection becomes a significant climax in an educational sequence. It is like the harvest at the ripening of a carefully tended crop. Instead of being the "whole show," it is the class activity that brings into being all the possibilities suggested by the careful preparation that has gone before. The discussion and activities that follow the projection mature and clarify the ideas developed in the screening. Often a second or third showing of the film may be necessary to answer all questions that arise.

Some teachers find sources of motivation in the film for many related activities. The film, *The Fireman*, led to a trip to the fire department and was the source of experience reading in lower elementary grades. *The Corn Farmer* stimulated art classes to express in a frieze all the things they could name that were produced on the farm. *The String Choir* provided the inspiration for a school assembly put on by a class in music appreciation. After seeing *Servant of the People*, children in gym classes expressed a desire to learn the Virginia Reel.

Three descriptions of the use of different types of films, on various grade levels, are presented on the next several pages. These illustrations are written by teachers on the basis of actual experiences. They help to show what are considered desirable uses of films, and illustrate the principles of procedure discussed herein.

*Projection  
Is Climax*

*Stimulates  
Related  
Activities*

*A Study of Farm Life*

## A First Grade Experience with Sound Films

BERTHA A. O'NEILL, Teacher

William Ford School, Dearborn

*First-Hand  
Experiences*

CHILDREN returning from their vacations in September were filled with the desire to tell the group of their varied experiences. Many of the children had visited farms or lived near them during the summer. One little boy had visited his grandparents' farm and told the group about riding a horse. Another child had pumped water from the farm well and another told how a family of kittens begged for milk when the farmer milked his cows, while others had enjoyed sliding down a hay stack. One little girl described how she had been awakened each morning by the farmer's wife rapping a dish on the fence to call the chickens for their breakfast. The children who had never visited a farm became interested through these accounts and the group then developed language experience stories of the following type:

Mary went to a farm.

She saw some cows.

She played on a hay stack.

All of the pupils enjoyed reading the stories which they had composed together.

*Stimulates  
Language,  
Reading,  
and Research*

Magazines were searched for farm pictures showing horses at work, cows in meadows, farmers at the milking, goats, pigs, chickens, and the other farm animals. A booklet was made up from this magazine material, and many large farm pictures were used to decorate the room. Much helpful material was supplied by the National Dairy Council.

*Seeing  
the Film*

The primer, *Peter's Family*, contains a story about Tom's visit to his grandmother's farm where he encounters all of the experiences that the group had previously talked about. The story was read and its accompanying pictures discussed with real enjoyment. Additional primers and juvenile books containing farm stories were placed on the library table in the room. The children enjoyed the pictures of farm life, the animal and poultry stories, and were eager to read aloud to the others the stories that they found in these books. With this background of common experience the sound films, *Farm Animals* and *Poultry*, were then presented in the classroom. The children's ideas and concepts of life on a farm were verified and clarified by this presentation. Vague concepts of the pupils who had never visited a farm were given greater reality and, through the films, the children learned of many new phases of farm life which were not within the scope of their previous experience.



The children's joy in seeing the pictures about something with which they were familiar was evidenced by their rapt attention during the film showing and by their enthusiastic participation in the discussions which followed immediately. In surprising detail, they were able to describe the various events of the film—from the weighing of the milk to the operation of the milking machine, from the incident of Farmer Brown climbing the ladder to the hay mow to the human interests in the nursing of baby animals. The fifteen-minute-old calf seen in the film was frequently mentioned. They talked about the tiny chickens pecking their way out of the egg shells and the words "incubator" and "brooder house" had become familiar through previous discussions and readings. For a first showing the children had gained a surprisingly complete series of concepts about life on a farm, the farm animals, and the various kinds of poultry.

*Film's Ideas  
Absorbed*

The children next decided that they would make pictures of farms, animals, and poultry. Some wanted to make booklets of pictures that showed various phases of farm life because they had so much to express, while others enlarged upon some one idea and produced a unit featuring one phase of farm life. The need for interpreting the pictures to the other members of the group served as a basis of oral composition, and this in turn for written composition. Farm stories were dictated by the children and these were written on the blackboard. When the stories were completed, they served as a basis for further reading activities. Interest ran high at this point. More books were searched for farm stories. More pictures were drawn. Clay animals were modelled and more stories were written. Pictured reading charts telling farm animal stories were constructed, which further added to the interest.

*Activities  
Promoted*

Some of the children, on their own initiative, had been cutting out animals, chickens, farm houses, and barns and placing them in the sand table. One day one of them said, "Let's make a farm," and all were of one accord. When it came to working out the details of this farm, some difficulty was encountered in deciding how a real farm should look, so at the request of the children, the films were again brought into the classroom. During this second showing the children were watching for the general appearance of a farm, the types of buildings used to house the various animals and poultry, and the location of the buildings. A discussion, which aimed at solving the problems of farm construction followed. This sand table project consumed all of the activity periods for some weeks.

*Build Model  
Farm*

*See Movie  
Again*

Children cut and colored houses, barns, cows, horses, and chickens, constructed chicken houses, and made an incubator and a brooder house. When suitable houses and barns and animal's homes of all kinds were produced, a fine background was designed,

*More  
Activity*

all was assembled, and the farm was complete. Because something tangible had been evolved through their own efforts, they were delighted with the result.

*Make Own  
"Talkie"*

Along with the construction of the farm, a "talking movie machine" for the room was developed. Pictures portraying various sequences were drawn and pasted together in a series which was mounted on rolls in a corrugated box. As the scroll unrolled, the narrator, chosen from the group, provided the accompanying description.

*Collect  
Related  
Objects*

At this point many objects and materials related to the farm were brought into the classroom. One child contributed a horse-shoe after a discussion about horses. Other materials included samples of leather, wool, glue, bristles, fertilizer, feathers, buttons, eggs, butter, cheese, milk, lard, grain, hay, and pictures of various meats.

Milk was traced in story and picture form through its pasteurization, bottling, and distribution processes. The value of milk was discussed, and rhymes and stories about milk were learned. The importance of cleanliness in the handling of milk to keep it pure was emphasized.

Each child was assigned a topic for a report to the class to be based on his total experience with reading books, observing pictures, watching the movie, and participating in class discussions. One child described the process of harnessing a horse, another reported on the work done by farm horses, and similar topics were reported by all of the members of the group.

*Children  
Give Own  
Commentary*

With the approach of Thanksgiving, interest in ducks, chickens, and turkeys stimulated a need for a third viewing of the films. At the teacher's suggestion the children listened carefully to the voice of the narrator so that they might be able to express themselves as clearly when talking about their own farm. The films were then run without sound, and several children did the announcing with varying degrees of success. This experience created a greater appreciation of the commentator's ability, for they asked to see the picture again with the sound so they could listen to the way the narrator told the story.

*Prepare  
Exhibit*

By this time a large amount of children's material had been accumulated in the schoolroom so the children thought they should have an exhibit. The best work was selected by the group, and it was put into the finest possible shape to be displayed to greatest advantage. It was then decided that pictures should be taken of this exhibit and of all the related activities just as the magazine *Life* takes pictures of interesting things people are doing.

As further enrichment of this total experience the group will see the following closely related films, without going into the extensive detail associated with the showing of *Farm Animals* and

# Pictures tell the Story

## A STUDY OF FARM LIFE

by the First Grade  
of William Ford  
School, Dearborn

*Vacation visits to the  
farm had developed  
interest in pictures of  
farms and animals.*

*The sound films,  
"Farm Animals," and  
"Poultry on the Farm,"  
were seen in the  
classroom.*

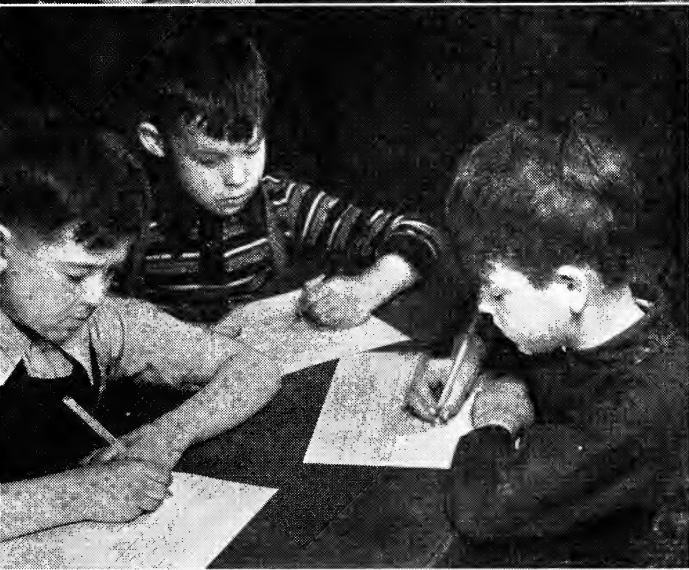
*Experiences gained  
from the films and  
visits stimulated ex-  
tensive discussions.*

PHOTOS  
BY WHALEN

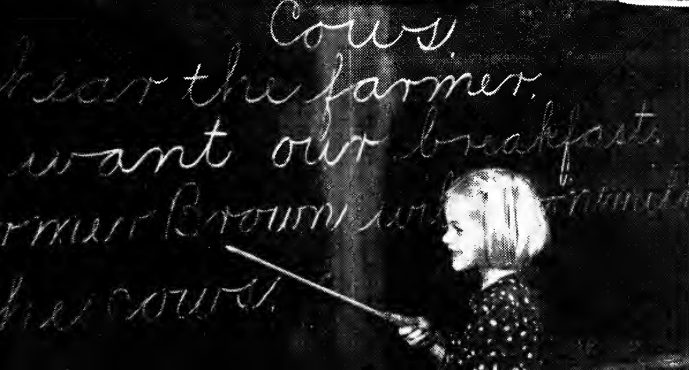
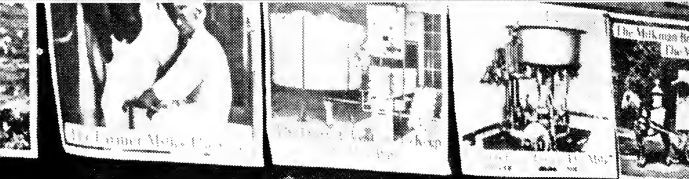




*Crayon and paper provided one avenue of self-expression.*



*Farm stories were written and dictated to the teacher to be written on the board.*



*and the children learned to read their own stories.*

PHOTOS  
BY WHALEN

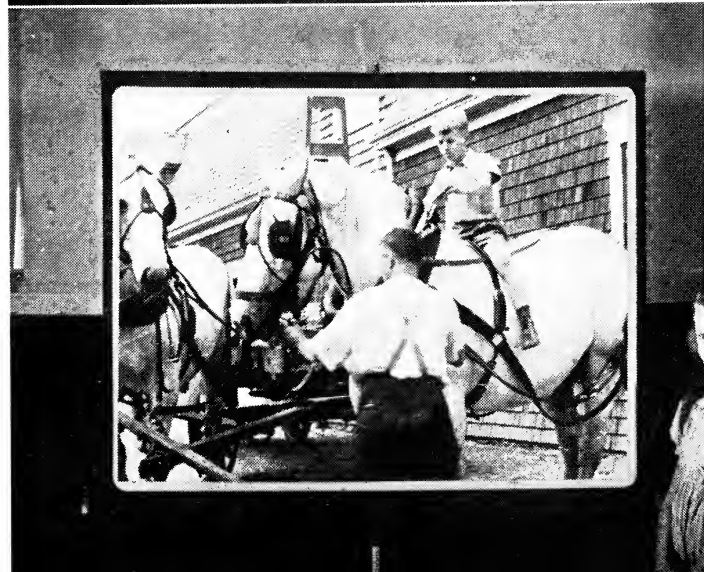
*More stories were written, and were used to make an illustrated chart.*



*Clay animals were modeled, and farm materials were collected.*



*Pupils told the story, with the sound apparatus turned off.*



PHOTOS  
BY WHALEN



*Children made their own movie to illustrate their own accounts of the film story.*

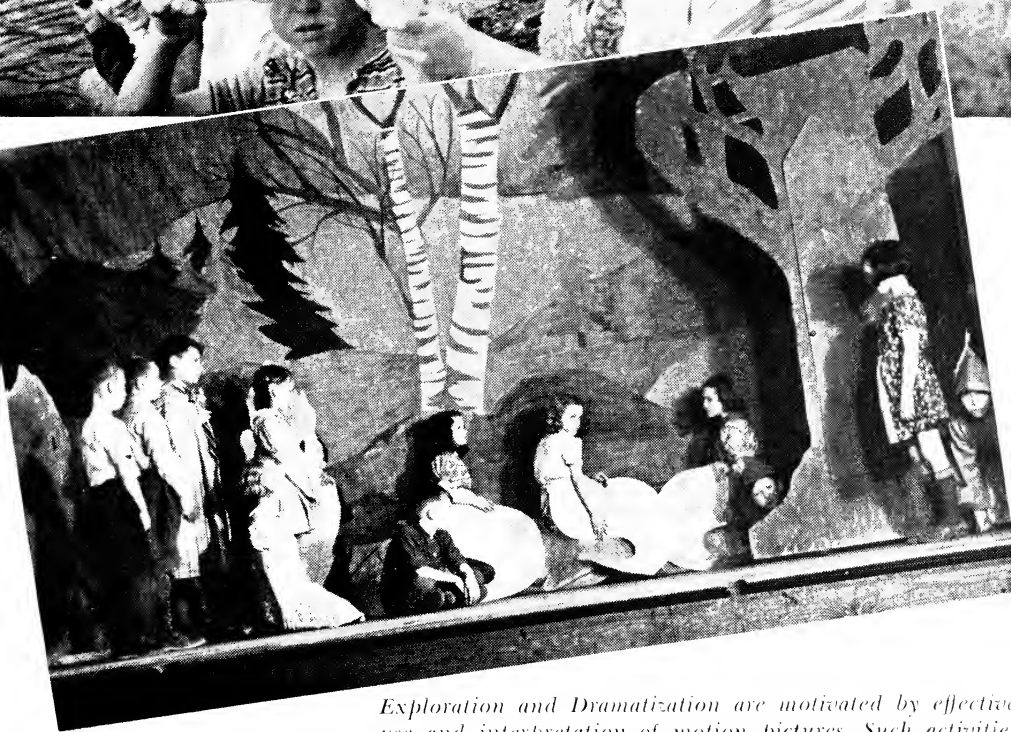


*The background of reading experiences stimulated interest in all available reading material.*



*The sand table was transformed into a model farm.*





*Exploration and Dramatization are motivated by effective use and interpretation of motion pictures. Such activities by children of the Woodruff School, Ypsilanti, are illustrated in these pictures.*



PHOTOS BY ELLIOT

*A film can be utilized effectively for many instructional purposes on various grade levels. The children shown in these illustrations used a silent movie and their former experiences to compose a story, which was studied from blackboard and from chart. See "A Study of Frogs, Toads, and Salamanders," on page 35.*



*Poultry; Three Little Kittens; Goats; Shep, the Farm Dog; Adventures of Bunny Rabbit.*

What is the group going to do now? Well, they are already talking about the March assembly program for which they are responsible. Perhaps some of the knowledge gained in this study can be utilized in preparing for this future event. Ideas and suggestions are developing which may lead to a dramatization of activities pursued while studying *Farm Animals* and *Poultry*. This program promises to be a fitting conclusion to an enjoyable project.

In the development of this project, the general purposes for presenting any film were fulfilled—namely:

1. To enrich and extend the immediate environment of the pupil.
2. To provide opportunities for mental and social growth.
3. To create a basis for classroom activities which grow out of real experiences.
4. To aid the children to form concepts which are accurate and interesting.
5. To present many and varied phases of a subject.

These particular films were used because the informal discussions of children's experiences developed an interest in this subject and raised questions which could be answered by the films. Stories in readers and juvenile books aided in stimulating this interest.

The activities pursued following the film presentation were all outlets for self-expression based on knowledge of this and related subjects, and grew out of real experiences. These activities included:

1. Handwork, such as constructing, drawing, cutting, placing, looking for related material.
2. Self-expression activities by transmitting thoughts through language.
3. Self-expression activities by writing down thoughts on paper.
4. Self-expression activities by reading aloud stories related to the film subjects.
5. Observation by bringing into the classroom objects related to the film.

Through the medium of the film presentation, the children gained:

1. Wider and more accurate knowledge of the subject.
2. Clearer concepts.
3. Improved ability in oral expression.
4. Awakened curiosity regarding environment.
5. A desire to read more extensively on related subjects.
6. Increased vocabulary.

*Consider  
Dramatic  
Production*

*Purposes  
Achieved*

*Activities  
Resulting*

*General  
Outcomes*

While projection equipment was brought into the classroom on three different days, the films were shown repeatedly each time. Those frequent re-showings helped to clarify concepts, gave opportunity to note additional detail, promoted more thorough discussions, and helped to tie together all of the related activities.

\* \* \*

## *A Study of Mexico*

### A Fifth Grade Experience with a Sound Film

MRS. ESTHER FLETCHER, Teacher,  
Woodruff School, Ypsilanti

*Pupils  
Prepare to  
See Film*

KNOWING the date for the showing of a picture on Mexico, we planned our unit on that country accordingly. Before seeing the picture, we discussed most informally, ways and means of travel from our town to Mexico; and made a list of all the information we had gathered from visiting with people, from reading, and from seeing news reels at our local theater. We also made a fine collection of Mexican wares and displayed them attractively in our room.

We felt then that we were ready to see the picture, with the view of looking for new information, keeping in mind the few things we already knew. Thus the first viewing of the picture was for general information and more or less to create a feeling for the country.

Our next step was to divide our group of forty into committees for the purpose of studying the country more specifically: its history, geographic conditions, the customs and work of the people, transportation, the important cities, and its art and poetry.

*Make  
Dictionary*

We made a Mexican dictionary and became so pleased with our fluent use of various Mexican words and phrases that we wanted to "show off," so we invited the sixth grade to see our display. You can imagine how pleased the boys and girls were to explain about the *serape*, *sombrero*, *rebozo*, *tortillas*, *haciendas*, etc.

After our study we again saw the picture on Mexico and checked its value as a learning aid. We found that when checked against other sources, it depicted the life of the people in a true light and was authentic in geographical respects. We also noticed many details of which we had not been aware at the first showing.

*Give  
Assembly*

The group thought the picture so worth while that they wanted to have the whole school see it, so an assembly was given. The picture was shown, followed by a stage presentation of a Mexican market place with the children dressed in native costumes, exchanging wares, baking *tortillas*, dancing, and singing Mexican songs.

After the performance the Fifth Grade children held a reception in their room. *Chile*, made by the girls, crackers, and *guava* jelly were served to each child at his desk, which was spread with a place mat of Mexican designs made in the art class.

*Hold  
Reception*

The children's mothers were invited, and a special guest was a member of our community who had recently visited Mexico. She brought with her many interesting and unusual souvenirs and told us of her personal experiences in that country.

Throughout the entire study the sound film was an important help in creating interest, in giving information, in forming attitudes, and in developing appreciation. It should be noted, however, that it was not the only source of such help.

\* \* \*

### *A Study of Frogs, Toads and Salamanders* Using a Silent Film at Several Grade Levels

EVELYN BICE and ROY LAHR, Verona School and  
EDWARD REYNOLDS, Central High School, Battle Creek

LIMITED BUDGETS necessitate the utmost practicable use of every film rented or purchased. Certain films lend themselves readily to use on different grade levels. Particularly is this true of some silent films, for with these, the commentary can be changed by the teacher to conform to the level of the group. The nucleus of a film library might well contain a high percentage of films of this type. This library could then be supplemented by rental films having a more limited use.

The film, *Frogs, Toads, and Salamanders*, is a good example of this type of motion picture. It may be used in early grades, intermediate grades, or in high school.

*On Three  
Levels*

The lessons presented here show the use of the film in First Grade, Junior High School, and Senior High School. No attempt is made to record the lessons in entirety but rather to show how the film serves its purpose at each stage.

For the First Grade, only the section of the film on frogs was used. At this grade level the sections can be used to better advantage if presented separately.

The study of frogs was introduced early in the spring through the discovery of hibernating frogs in a shallow pit which was being dug near the school. One was brought into the classroom. The children were much intrigued by the slow, sleepy frog. After a discussion about frogs, a story was jotted down:

*Discover  
Frog*

*Write  
Story*

*Our Frog*  
 It can jump far.  
 It can swim very well.  
 It has strong hind legs.  
 It is green.  
 It eats insects.  
 It hibernates.  
 It lays eggs in the spring.

The teacher then asked if the children would like to see a motion picture showing how tadpoles grow into frogs. A list was made of the things the children wished to find out.

*List  
Queries*

*What We Want to Know*  
 What do frogs' eggs look like?  
 How do the eggs grow?  
 What do the polliwogs look like when they are changing?  
 How do frogs catch flies?  
 How do frogs swim?  
 Can polliwogs eat?  
 How do polliwogs swim?

*See Film*

The children were seated near the blackboard for the discussion, and for showing the film it was only necessary to fasten a large piece of white paper to the blackboard and set the projector on a pupil's table just back of the group. At this distance, with the screen image small, the illumination was sufficient to give a good clear picture even though only the amber window shades were used to darken the room. As the children were seated relatively close to the screen, the image was large enough for all to see easily.

*—as Part of  
Classroom  
Situation*

This informal setting for the showing of the film made it possible to carry on with very little interruption and to make the film showing a part of the whole situation rather than an entity in itself. Furthermore, close-ups in the film seemed more natural and were more readily comprehended by the children. With nature films especially, a larger screen image in a much darkened room can result in close-ups which are terrifying to some children of this age, whereas in the regular classroom, only partially darkened, and with a more normal size image, the scenes take on a more natural aspect.

Admittedly such conditions for showing a film result in some loss of clarity and photographic excellence<sup>1</sup> and some films will not be adequate photographically for such showings. This loss is more than offset, however, in the increased efficiency with which the lesson is carried on. If the image is not entirely satisfactory, consideration might well be given to improving the means of darkening the room rather than moving the class to a special room.

<sup>1</sup> John A. Maurer, "Criteria for Selecting Motion Picture Equipment," *Educational Screen*, XIX (March 1911) p. 118.

Immediately following the picture the children discussed the questions they had listed and found that the motion picture had answered most of them.

*Check Back  
on Queries*

The teacher then sketched on the blackboard five stages in the development from egg to frog and a sentence was written next to each picture. (See illustration on page 32-F.) The children read this chart to each other and discussed material not included in the chart such as growth of the tadpole, what it eats, the appearance of the frog, and hibernation. The chart was copied on tagboard for future use.

*Discuss*

Many pictures and books were used including *Hop! Hop! Hop!* by Nila B. Smith and Eleanor Troxell, *Tim Tadpole* by Marjorie Flack, and *Polliwiggles Progress* by Wilfred Bronson.

*—Read*

The next day the film was shown again, this time with a commentary by the teacher. The new words learned were given special attention and the story composed the previous day was re-read.

*—See Film  
Again*

Although this ended the lesson on the frog as a special unit, there were several outcomes which carried over throughout the remainder of the year. The tadpoles were kept in the room and their development was followed closely by the children. Frogs were brought in and kept in the vivarium where they could be observed readily. Many times the children referred to some fact which they had learned in the movie. Labels on the vivarium and on the bowl of tadpoles served to clinch recognition of some of the terms used.

*—and  
Continue  
Study*

The Junior High lesson using the film, *Frogs, Toads, and Salamanders*, started through discussion of a salamander which one of the students had brought to general science class. The specimen was classified as amphibian which led to a study of amphibia, their characteristics and habits. The film was procured and shown to the group. After the showing the following questions were asked by pupils:

1. Are salamanders poisonous?
2. How long do they live?
3. What do they eat?
4. Do we get warts from toads?
5. Why do the "warts" on toads give off a bitter secretion?
6. What are newts?
7. Why do mud puppies keep gills, and other amphibia don't?
8. Do we have hellbenders in Michigan?
9. How often do frogs lay eggs?
10. Why does the salamander have a broad tail?
11. Why do frogs lay eggs in bunches and toads in strings?
12. How many eggs do they lay?
13. What percentage of frog eggs do not survive?
14. What happens to the gelatin?

*Prepare  
Questions*

15. Do they eat it?
16. What is the length of hibernation?
17. How often do toads moult?
18. Are tree toads young toads or are they a separate species?
19. Can a tree toad change color and if so how?

*Observe  
Live  
Specimens*

After the questions had been tabulated, the discussion turned to methods of finding the answers. The first suggestion was that some amphibians be kept in the school vivarium and the answers to the questions obtained through observation. Another student pointed out that although this method would serve very well for some of the questions, some of the answers must be found in books.

The sources suggested were encyclopedias, the manual accompanying the film, the science texts, and books from the city library. Committees or individuals took over duties according to their own choices. Some were to get material from the library or other sources, others were to prepare the vivarium and find the necessary specimens.

*Prepare  
Commentary*

One committee was given the responsibility of collecting the data obtained by the others and preparing a commentary to be given with the film during the second showing. This committee had the privilege of running the film several times after school in order that they might prepare the material to fit the film.

Prior to the second showing of the film the list of questions was read and a few questions were added by the teacher. During the showing of the movie the commentary was given by the student committee with each student explaining a part of the film. A few minutes were spent in discussion of the film, leaving just time at the end of the period for a short completion test.

*More  
Formal  
Approach*

In Senior High School the film was used as an introduction to the study of amphibia. The film provided a common background for all of the pupils. Many were familiar with amphibia in a general way, but several had very little information about the characteristics of this interesting class. The film not only provided a quick review, but served as a starting point for discussion of amphibia in the scale of evolution and a technical study of classification.

Points of study considered after the showing of the film included the following:

1. The tongue is attached to the fore part of the mandible rather than near the throat, enabling them to extrude the tongue quickly and catch insects. This is made easier because of the sticky substance with which the tongue is coated.

2. Protective devices, such as withdrawing the eyes into the head, and the glands of the toad which secrete an unpleasant substance. Protective coloration was studied and compared with other examples.

*Points of  
Study*

3. Development of higher forms through changes in the respiratory processes: respiration through the skin, the use of gills during first

stages, and the use of gills in some amphibia throughout their life cycle even though rudimentary lungs are present.

4. Differentiation of tailed and tailless forms.

5. Comparison with the breathing mechanism of man. Man expands the chest cavity and atmospheric pressure forces air into the lungs. Amphibia contract throat muscles and close off nostrils thus forcing air into the lungs.

6. Blood corpuscles are larger than man's and are ovoid. Man's are concave discs.

7. A detailed study of terminology and classification.

8. A study of the commercial importance of amphibia in agriculture.

It can readily be seen that the Senior High School study of amphibia was on a different plane from the lessons in junior high and elementary grades. The film, while not in itself technical, served as an approach to a quite technical study. It undoubtedly served to arouse interest on the part of all the pupils. For that portion of the class which might profit least from the technical study, it provided a valid source of information.

*Stimulates  
Technical  
Study*

In evaluating the film as a part of the lessons, it was evident that the film served on all three levels to fix the attention and the interest of the pupils on the subject to be studied. On each level it provided a common background of experience which could serve as a basis for further study by the group. Complete life cycles could be shown, a matter difficult to achieve with the limited time and facilities of the classroom. The film did not supplant first hand observation through classroom exhibits and field trips, but rather encouraged and supplemented such experiences. The material in the film was readily adapted to the level of the group using it. The film seemed neither too complex for First Grade nor too simple for High School, but could readily be used by either, depending entirely on the development used by teacher and pupils.

*Values*

# Teacher Education

*Teachers  
Not  
Replaced*

MOTION PICTURES will not replace the teachers in education. The use of the motion picture will aid materially in both the method and richness of content of the whole educational program. Motion pictures in education serve as an aid for improving instruction in a similar manner to that in which X-ray pictures serve as an aid to the medical profession.

Education should not confuse the various uses of motion pictures. Today we find that schools, churches, business, industry, and government make use of motion pictures in particular fields of endeavor. Business and industry have, for some time, known the paramount value of motion pictures in merchandising their products and increasing sales. The training of salesmen and the promotion of sales have been carried on effectively by the use of the motion picture. Government has also made use of motion pictures for educating the general public concerning the many services of city, state, and national government.

*Modernizes  
Education*

The increased need for the use of motion pictures in education is obvious when the comparison of the materials and methods of business and home of today reveals almost a total dissimilarity to those of the same institutions of a generation ago. The use of films brings into operation immediately the sense of sight and, with sound pictures, the sense of hearing. These senses speed up thinking and bring into human consciousness the activities of school life which are of vital importance in the development of the whole child.

*Widens  
Child's  
World*

Educators recognize that students need many experiences to supplement the textbooks and other facilities used in connection with courses of study. The needs of life demand that instruction have reality. This problem is being met by the schools through the use of many teaching aids. Films, when properly used, take school children into industrial plants, large museums, public buildings, world fairs, across moun-



tains and lakes, and give to the students intimate glimpses of nature and people of many nations. Social, religious, economic, political, and governmental conditions are presented pictorially.

Motion pictures provide definite experiences. It is impossible to bring the pyramids of Egypt to a class in Indiana or to take a Michigan class to the Grand Canyon. Yet the use of films provides experiences for children and adults that are not available in any other form. These experiences make possible a sustained interest in our social progress. Films also portray and present the story of the customs of people, the arts and trades, modes of living, and the cultural development of races and nations. They help to make possible a reconstruction of the past, a record of the present, and furnish an index for the future so that our social structures may be strengthened for later generations.

Teacher training programs in colleges and universities are for teachers-in-service and for teachers-to-be. Some of this training has many practical features for limited areas within the total program of education. For example, it is possible and also very necessary for teachers to learn how to operate the physical equipment required for quality projection of motion pictures. This part of the teacher training program may be referred to as the mechanical part or efficient operation of equipment. The evaluation and utilization of techniques required for equipment operation are a prerequisite to proper utilization of motion pictures or other teaching aids. Balanced against the mechanical phases in this teacher education program must necessarily come the more comprehensive training relating to and including the selection and proper use of *all* teaching aids. Teacher training institutions have not been able to do as much on this particular phase of teacher education.

All teachers and prospective teachers need a full understanding of the implications and limitations of the use of films. No one type of teacher training procedure will serve the needs of all teachers. It is generally recommended that teachers, therefore, follow several modes or plans. Teachers will benefit from the courses offered by the colleges and universities. In any case it is desirable that many observations

*—Through  
Extended  
Experiences*

*Learn Use  
of Equipment*

*—and Use  
of Films*

*Classroom  
Observation*

be made of demonstrations in actual classroom situations. If teacher education is an in-service program, it should be worked out within the community itself as determined by the requirements of the local situation. Thus, teachers from large or small communities, from rural schools or large school systems, could see a film on health education used in a demonstration lesson so that the teaching techniques and proper application of learning standards would be understood. From then on, the adaptation of this type of demonstration would necessarily be left to the individual teacher's procedures so that local applications will be in balance with the total program.

*Need  
Over-all  
View*

The entire program of teacher education must be very comprehensive. Therefore, it becomes necessary to direct the use of motion pictures through the instructional avenues as determined by the subject matter to be presented. It is of importance that teachers be taught to look into all phases of the curriculum for the total values of motion pictures. It is possible for a music teacher to use motion pictures in teaching her special subject of music, but in order to improve the effectiveness of this particular teaching situation, it is necessary for her to know what is happening concerning the use of the motion pictures in the social studies field and others.

The selection of educational motion pictures and the proper organization and classification of these motion pictures into courses of study will facilitate their effective use. In addition to the course of study type of publication, it is also possible to work out in some leaflet pattern the proper use of theatrical films which may be shown in school buildings when approved. The same procedure may be followed when seeing theatrical films at the theater. The development of the appreciation of theatrical motion pictures and their many worthwhile values is as important as is the effort to make educational films effective in developing an appreciation of the total phases of life within the community.

*Committees  
Are Effective*

A democratic practice in teacher education today is the formation of committees consisting of administrators and teachers to plan and stimulate teacher growth. Certainly the use of motion pictures may very well be one of the subjects for promotion of such committees.

A very recent development for teacher education is the appraisal of the purpose and use of sound effects in educational motion pictures. The "sound effects" of several types of educational programs are indeed paramount. We were formerly concerned with whether or not the effects of the program were valid. But today, long before the former "take" of the program has been evaluated, the newer idea of sound effects has been interwoven into the subject matter area pattern, either for atmosphere, background designs, or for the purpose of promoting the original theme with a more palatable medicine. However, in addition to this, the sound effects program carries with it those features of spontaneity and reality which may be labeled the "silent or inanimate *ad lib*" phase of evaluation but is interlocked with teaching techniques and content as a part of the original curriculum reconstruction plan. Motion pictures, that is, the theatrical film and the educational film, today make use of not only the "natural sound episodes" but also carry the sound effects idea whether it be with music education proper or with some natural episode of life in the kindergarten or in the commercial classes of typewriting.

The implications of the motion picture in education should call forth critical thinking and discriminatory listening as a part of the preparation of every teacher. Laboratories of reality should be present so that students and teachers may know and understand more thoroughly the development of all phases of life.

*Significance  
of Sound*

# Administration

## *Problems*

WHEN a school system accepts the premise that the motion picture is a valuable instructional tool, varied problems of administration arise. Projection equipment must be selected, purchased, and cared for in storage and operation; films must be booked, inspected, repaired, humidified, and stored; rental pictures must be arranged for; electrical outlets, extension cords, opaque shades, and movie screens must be looked after; teacher and pupil operators must be trained; and a host of other jobs of an administrative nature must be handled.

## *Visual Education Committee*

In some situations, a visual education committee of representatives from the different schools of the system, and representing various fields of interest, has been organized. The committee surveys the curriculum and the possibilities of using motion pictures in the various classrooms, determining what pictures are available and appraising the various problems in connection with developing the program. Such a committee serves especially in developing a wide interest and considerable understanding of the many problems involved, though it does spread responsibility widely and to some extent tends to slow up the adoption of a definite program of action. When such a committee is appointed, the chairman might well be a person capable of accepting the responsibility for the guidance and direction of the program and be the individual to whom administrative functions are assigned when the program is finally adopted. This person must provide intelligent leadership and service through many duties which will include:

## *Some Duties of Chairman*

1. The collection, analysis, and selection, from the mass of catalogs, brochures, advertising materials, etc., of information valuable in the given situation.
2. The guidance and direction of the training of teachers in the effective use of instructional motion pictures and in the operation of equipment.

3. The collection and distribution of information regarding available instructional films.

4. The organization of routines for the booking, distribution, inspection, and shipping of instructional films to be used in the system.

5. The examination and recommendation of suitable projection equipment for purchase by the system.

6. The solving of the many additional problems which will arise in putting the program into operation.

Other members may become building representatives to accept responsibility for care of equipment, building schedules, etc. As the program grows, it may be possible for these committee members to serve as building consultants. They assist the teachers with whom they come most closely in contact to recognize the possibilities for correctly utilizing motion pictures in their instructional programs. They also assist in the collection and distribution of information.

*Building  
Representative*

The amount of money that must be provided for the adequate financing of an instructional motion picture program will necessarily depend upon the kind of program that is to be carried on, and upon how much the program will cost. This can be determined only in terms of particular local need. The motion picture, if effectively used, is just as worthy of adequate support as are textbooks, blackboards, writing materials, or any other instructional tools. However, the motion picture is still considered an "extra" by many in the educational field. When the school budget does not provide adequate support through the regular board of education channels, many schools find it necessary to resort to some other means of financing the program.

*Budget*

In some cases, parents are willing to give their time and energy in assisting the school to raise funds for purchasing equipment, renting films, and generally financing the use of this material aid. In other communities it is accepted that sufficient equipment and ample support should be provided by taxation, directed by the board of education. This is a controversial issue which must be met by each community in terms of its own circumstances. Parents who do assist, directly or indirectly, in securing such materials or equipment frequently seem to feel a more personal concern with

*Parents  
Help*

the activities of the school, which, after all, is the basis for cooperation between school, home, and community. In general, it may be said that patrons may help to create favorable sentiment to the point of a demand for such an instructional program but that it is eventually the responsibility of the board of education to provide adequate support.

*Raising  
Funds*

When entertainment type films are shown for money raising programs, the element of competition with established theaters in the community may seriously affect such a program. In most places a 16mm entertainment film shown in a school auditorium cannot be expected to equal the optical or acoustical perfection of the professional projection to be found in the theater, and further the local theater owner, as a taxpayer and business man, may complain that the school is encroaching upon a business field to the point of damaging his legitimate income.

*-May Hinder  
Instructional  
Use*

From an educational viewpoint, such programs usually lack entirely the directed instructional value of correlated classroom showings of films planned and produced for teaching purposes; and the instructional program suffers accordingly. However, "half a loaf is better than none." Carefully directed, such a program may pave the way to the development of a genuinely educational use of motion pictures.

An adequate budget for a larger school district will include the following provisions, although smaller communities will need to modify their outlay in terms of local resources:

*Items in  
Budget*

1. CAPITAL OUTLAYS—First cost of projection equipment, screens, darkening facilities, and additions to equipment.
2. BUILDING ALTERATIONS—Installation of electrical outlets and opaque shades.
3. MISCELLANEOUS EXPENSES—Transportation of films, express and mail charges, or delivery service from central office to schools and return; rental of instructional films from outside sources; projection lamps; replacement tubes; service and repair on damaged films owned, rented, and borrowed; additions to local film library (if any); photographic supplies, and film, if movies are produced locally.
4. MAINTENANCE—Repair and upkeep: provision for annual factory overhaul of projection equipment, provision for emergency repairs as may be needed.

It is widely believed that the most effective use of an instructional motion picture is made when a teacher brings the film related to the unit of instruction into the classroom along with the projection equipment. A film so used may then become a part of the general learning experience of the pupils. To achieve this standard it is necessary that teachers be trained in the effective use of motion pictures and in the operation of equipment and that adequate facilities be provided to make it possible to use a projector in the classrooms. Many of the older school buildings do not provide electrical outlets in the classrooms, and very few buildings are equipped with opaque shades. When the only facilities for ventilation are provided by windows, an additional problem is introduced. The cost of installing electrical outlets and dark shades need be only a few dollars per classroom.

*Classroom  
Problems*

Since few classrooms are commonly equipped with opaque shades, some schools find it desirable to equip only one or two rooms. It then is necessary that classes planning to use a motion picture meet in this special projection room for the given class period. When no darkening facilities are available, ordinary translucent shades have been used with a fair degree of success by arranging the film showings during the period of the day when the room is away from direct exposure to the sunlight. If the screen is placed in such a position that it is shaded from the direct light coming from the windows and the pupils are seated directly in front of the screen, a satisfactory showing may be made in a semi-darkened room. It is to be hoped that school buildings planned for future construction will include provision for such simple facilities as a part of the original plans.

*Darkening  
Rooms*

#### RESPONSIBILITY OF TEACHERS

The mechanical aspects of projecting motion pictures in classrooms sometimes discourage teachers from making frequent use of available materials. In general, it is desirable that the projection be definitely the responsibility of the classroom teacher. In some secondary schools it has been found expedient to organize projection clubs among the older boys, and under proper supervision they have been able to carry on the mechanical details successfully. In the elementary schools

*Responsible for  
Projection*

it may be possible to utilize pupil help in transporting and setting up equipment under the teacher's supervision, but it becomes necessarily the teacher's job to check all connections and handle the more or less fragile film during projection.

*Value of  
Local  
Library*

When a school system is large enough so that the purchase cost of a library of instructional films can be budgeted over a sufficient number of pupil-showings to justify the expenditure, it is highly desirable that a local library be maintained. The teacher in such a school system may then consult the catalog of information furnished by the local library and select the particular films that will correlate exactly with the unit of classroom instructional activity, and schedule the film showings at the exact time that such showings will be most useful in extending the knowledge, skills, and understanding of the pupils.

*Aids to  
Proper  
Selection*

To assist the teacher in making an intelligent selection of the films to be used, many systems operating their own library provide each teacher with a descriptive catalog of the films contained in the library. A set of descriptive manuals may be made available in each school building to provide detailed information about the content of the film and a complete script of the narration and sound effects if sound films are used. With such information available, there is no excuse for a teacher to make a spur-of-the-moment, time-filling, entertaining interlude of the film showing; rather, it becomes her definite responsibility to make the use of the film an additional powerful link in the whole chain of learning experiences with which the pupils are engaged in the classroom.

The following routine has been found successful in serving the teachers of one school system operating a small local library:

*Booking  
Requests*

The teacher, aware of the need for an instructional motion picture, first consults the catalog of the local library and sends in a card stating the title of the film and the time for which it is desired. If a suitable film is not available locally, the teacher may request a film from an outside agency if known; or the office may be requested to locate a suitable film and arrange a booking. When the booking is confirmed, the clerical staff completes the necessary routine forms and a notice is forwarded to the school concerned, stating that the



teacher may expect the film requested for a definite period. When the film arrives, it is inspected by the central office staff and if found to be in good condition, forwarded to the school along with a report form which the teacher is to fill out and return with the film at the close of the scheduled period. The delivery service then returns the film to the central office, where it is again inspected to determine if any damage has been done during the local showing, after which it is replaced on the local library shelves or returned according to schedule to the outside agency from which it was obtained.

*Film  
Inspection*

If a local library is not to be considered, service from a central library, such as that operated by the University of Michigan, may be substituted. In order that bookings may be arranged, it is necessary that requests be forwarded to such central libraries well in advance of the desired play dates. A minimum of one semester advance notice, and preferably, request in June of bookings for service expected during the subsequent school year, are almost necessities. Such an arrangement requires advanced planning on the part of the teacher if the films are to be available at a time when they may be correlated with other classroom activities. This lack of correlation may be a serious drawback to the effectiveness of a program utilizing service from such an agency.

*Planning  
Film  
Rentals*

To save the cost of transportation and rental charges, some schools arrange a circuit booking. One film or a set of films may be booked for use in a number of different schools on successive days, and the films forwarded from one school to another. While such a plan may reduce the cost of film rentals and transportation, it, like any other system of pre-scheduled use, makes correlation with other instructional activities almost impossible. There is a serious tendency for the motion picture showing then to become merely an entertaining interlude in which many unrelated films may be shown to a large group of pupils with no regard to other instructional activities.

*Circuit  
Bookings*

In some localities, groups of interested schools have found it expedient to set up a district or county cooperative film library in which each of the participating schools may deposit one or more films and contribute to the cost of clerical

*Cooperative  
Film Libraries*

and inspection service, in return for which they may be privileged to use any of the films on deposit in the library. When a local or district library can be supplemented by a central library, the usefulness of the instructional films may be greatly extended.

*Preventing  
Damage  
Charges*

All rental or loan agreements hold the user responsible for any damage to film while it is in his possession. Therefore, it is advisable that all films received from outside sources be carefully inspected, and their condition noted before they are projected. Any damaged film should be reported promptly to the loaning agency and returned without being projected, to avoid any possible charges for damage for which the local operators are not responsible. Films also should be examined after use to be sure that no damage has been done while in use locally. It is extremely important that all films be shipped promptly on schedule. Without strict attention to this matter, other users will be disappointed and the entire schedule disrupted.

*Parcel Post  
and Express*

In some situations it may be found convenient to use parcel post service for shipping and receiving films, while in others, railway express service may be found more practical. If parcel post is used the container must not be sealed unless the proper label is used, and no written matter should be included. When insurance charges and delivery costs are considered, it is probable that there will be little difference in the total cost of either type of service. Local conditions must govern the particular type of service chosen.

# Equipment

THOSE responsible for the selection of equipment for the showing of motion pictures face problems pertaining to projectors, films, darkened rooms, and other physical factors, about which information derived from the past experience of others will prove valuable.

## SELECTION OF PROJECTOR

In selecting a motion picture projector, certain details should be considered. The following items will apply to any 16mm projector whether it be for silent or sound projection:

1. INTENSITY OF ILLUMINATION. The amount of illumination provided may depend upon the size of the projection lamp and also upon the efficiency of the optical system and the "f" value of the projection lens provided. If the equipment is to be used in large classrooms or in an auditorium, the intensity of the illumination available is of considerable importance.

*Light  
Intensity*

2. STEADINESS OF PROJECTED PICTURES. Freedom from flicker involves:

a. Accuracy in the mechanical device used to advance the film through the projection aperture.

b. The smoothness of operation of the shutter mechanism. When the projector is operated without film, the shutter should be so driven that no visible flicker is produced on the screen. With film in the machine, projected pictures should be completely free from jump, flicker, or travel ghost. Bad mechanical equipment may produce poorly projected pictures, resulting in serious eye strain.

*Lack of  
Flicker*

3. SAFEGUARDS AGAINST FILM DAMAGE. The machine should be examined carefully for automatic safeguards which will largely prevent the possibility of damage to films during

*Film  
Safeguards*

projection. Some machines employ gadgets which are claimed to be guards but which actually prove to be damaging devices when improperly used.

*Film  
Wear*

When testing a projector, it is desirable to run an endless loop of new test film through the projector for several hours to determine the wear, marring, and soiling of the film surface and sprocket holes.

At sound speed 16mm film travels 36 ft. per minute; at silent speed, 24 ft. per minute. Simple arithmetic will compute the number of passages of measured loop per hour. This factor of wear is of special importance if a local film library is to be operated and excessive damage costs are to be avoided.

*Ease of  
Operation*

4. EASE OF OPERATION. A projector which will be used readily by teachers not only should be easy to operate but should *look* easy to operate. Most 16mm projectors are now as simple for ordinary operation as any of the common household utensils which are accepted without any reticence. Operating controls should be conveniently located, and it should be possible to set up the equipment or pack it for transportation within three to five minutes. All connections should be clearly marked and readily accessible. If a sound projector is considered polarized, connector plugs should be so constructed as to prevent improper hookups.

*Portable  
and Durable*

5. PORTABILITY. Equipment should be light enough so that it may be transported easily from room to room by any teacher, or by pupil help under teacher supervision.

6. DURABILITY. The machine should be so sturdily constructed that, with reasonable care and regular cleaning and oiling, it can be operated for long periods with little or no repair and upkeep expense. All connectors should be rugged, heavy duty type to avoid breakage and attending annoyances.

7. SOUND QUALITY. If a sound projector is to be purchased, the quality of reproduction of both music, narration, and dramatic dialogue should be checked carefully under all of the varying conditions under which the projector may be expected to operate.

8. REPAIR SERVICE. A sound amplifier should have fuses and amplifier tubes so arranged that they may be easily re-

placed in case of failure. It is also desirable that a factory representative be within easy reach in case of major trouble.

9. ACCESSORIES. Many sound projectors are equipped with a phonograph jack by means of which a microphone or a phonograph turn table may be used with the amplifier for public address purposes. Some projectors also include a single frame projection device, a reverse mechanism, and other features, most of which add to the original cost of the equipment and the usefulness of which should be considered carefully.

10. COST. In most cases comparable equipment produced by recognized manufacturers will be comparable in price. The greatest price variations will be caused by the additional accessories that may be furnished for various purposes.

*Accessories  
and Cost*

#### SELECTION OF FILM

Many check lists have been proposed to assist the evaluation of instructional films. The following procedure has been found satisfactory in some school systems. A film for consideration may be submitted by a producer for preview and examination by the local committee of department head and teachers in the subject field concerned. This committee may consider the validity of the informational content, the photographic quality, the sound recording, and the probable frequency of use for the particular film in that school system. It also is wise to consider whether some other device might do the particular teaching job more effectively than the film.

*Procedure for  
Evaluation*

To remove one possibility of eye strain, it is desirable that a good screen be provided with each projector placed in service. While it is possible to use make-shift equipment, such as the white surface on the back of a wall map or a home painted window shade, such a screen will not deliver the full quality in the projected picture that is contained in the film. A screen of good quality will give the best possible screen image when used with 16mm equipment and an incandescent projection lamp.

#### SHADES

When the construction of the window frames in a given building will permit the ready mounting of opaque shades,

an adequate installation can be made for a very small amount of money. Metal casement windows may introduce difficulties which must be met according to local conditions.

#### CARE OF EQUIPMENT

Motion picture projectors will give excellent service if a few simple items of care are given attention. It usually is wise to appoint one individual to be responsible for keeping each machine thoroughly cleaned and properly oiled. Oiling should be done regularly and excess oil must never be allowed to accumulate on any projector, as such oil may seriously damage any film with which it comes in contact.

The projection aperture must be thoroughly cleaned before threading each reel of film, to prevent scratching and damaging of the film surface. A soft brush, dipped in non-flammable cleaning fluid, will remove grease or caked-on bits of film emulsion.

The director of the local program not only will find himself responsible for the organization and administration of the program, and for the selection of films and equipment, but he also will be called upon, from time to time, to make minor repairs to equipment. A well equipped kit of tools will include: screw drivers, pliers, a good soldering iron, flux and solder, brushes, and cleaning fluid, lens paper and polish, spare fuses, connectors, spare amplifier tubes, projection and exciter lamps, oil cans, and similar miscellaneous useful material.

In other words, the director not only will be an executive but also a general handy man. Care in the selection and standardization of equipment can simplify considerably these many problems of upkeep.

*One  
Individual  
Responsible*

*General  
Handy  
Man*

# Trends

TO observers of contemporary affairs and conditions throughout the world, motion pictures are decidedly interesting and useful. We need to have the overview, the through-view, and the future view of motion pictures painted or blue-printed so that all branches of their total structure may be properly understood, directed, and used in public education.

Yesterday, we had heard very little about motion pictures, or perhaps we read something about them. In either event, we were somewhat dubious and not too interested. Today, we are much more conscious and concerned about those motion pictures of yesterday. Motion pictures are approximately fifty years old. They are a comparatively new medium, yet one of the most powerful with regard to potentialities for construction, promotion, and development of social structures—they are just as powerful when used for the opposite.

*Yesterday  
and Today*

Let us consider a few developments in motion pictures:

Yesterday, one theater; today, about eighteen thousand in nine thousand cities. Yesterday, small audiences looking; today, many millions looking and listening. Thus, today, millions in attendance.

So, we have a fifty-year-old motion picture instrumentality which represents one of the largest and most complicated businesses in existence.

Consider the structure of motion pictures and their uses. Motion pictures have two major parts, the physical plant, or projection, and a content product. The way or manner in which motion pictures are planned, produced, presented, and used should be differentiated relative to the construction of the physical plant. The projector is somewhat similar to the radio physical plant and the printing press, while the motion picture film is comparable to the continuity of the radio broadcast and the printed page. These parallels are

*Structure  
and Uses*

offered in the spirit of interpretation, which may clarify the road of uses or abuses of motion pictures in education.

Contrasted with the theatrical film portrayal, we find that there are in the public school systems in the United States, many similar theaters located in classrooms and auditoriums. The attendance at these particular theaters is somewhat predetermined by the thirty million students enrolled. This enrollment, of course, is located in each city, village, town, and rural district, under the general direction of approximately one million teachers. With this general picture in mind, it will be necessary to continue the exploratory programs and research investigations for the purpose of evaluation of those motion pictures produced to date and those which have been used. These studies should help determine, by true appraisal procedures, new standards for motion pictures to be produced in the future.

*Classroom  
Is a Theater*

Motion pictures have been used in the public schools for approximately twenty-five years. It is quite obvious that the early pioneers of the motion picture industry proper made it possible for the schools to have motion pictures. Business and industry in many cases must necessarily carve some of the new paths for the educational profession. This is especially true when considered from the point of view of finances required for new developments.

*Movie  
Industry  
Paves Way*

During each year, several million children are attending school. Each must be provided with a rich, individual, and effective social training. Much has been discovered about the way in which children learn. Many useful teaching devices and methods aid in extending the horizons of learning for the youth of this state and nation. One of these is the motion picture. Children and adults spend several hours each week looking at motion pictures. The effect of this looking is recorded somewhere, somehow, on these individuals.

*Audience  
Influences  
Producer*

It is essential that the present-day curriculum be properly analyzed and reconstructed at regular intervals so that the needs of the home, school, and community will be properly considered, understood, and served. We find today many evidences wherein the educational motion picture and the theatrical motion picture are at work through the guidance



of the users. A state of "stymies" may serve as a double check for the improvement or discard of this teaching aid. This motion picture inventory is necessarily challenged with thinking, looking, and listening.

Motion pictures should bring the outside world into the classroom. The breath of industry and business and the pulsations of community spirit should give life to the activities of the school. And certainly motion pictures should take to the outside world those developments which are happening in education through the schools.

Trends and new developments will be determined by participation on the part of the motion picture industry, equipment manufacturers, schools, and the community. With this type of cooperation, trends indicate progress and growth of education for the whole child.

Science and Research march on - - -

New developments in photography—better precisioned equipment—appreciations and evaluations—new techniques of utilization—more effective administration—new modes of presentation including sound effects—teacher education improvement—new audiences.

We look, listen, and learn.

*Two-Way  
Proposition*

*The  
Future*

# Constitution and By-Laws

DEPARTMENT OF ELEMENTARY SCHOOL PRINCIPALS  
OF THE MICHIGAN EDUCATION ASSOCIATION  
(Revised and adopted at the Annual Meeting, May 3, 1940)

## PREAMBLE

The elementary school principal is face to face with responsibilities of the present day educational demands. To this group is entrusted the physical, mental, and moral training of the child in its tenderest years and upon it rests the obligation for an adequate basic training upon which all future education of the child depends. In order to meet the problems of the elementary school as they arise in our state and to give to the elementary child in every section of our state the advantages of our united effort, we do hereby form the Department of Elementary School Principals of the Michigan Education Association and adopt the following Constitution:

## Article I.—Name

The name of the organization shall be the Department of Elementary School Principals of the Michigan Education Association.

## Article II.—Membership

Any member of the Michigan Education Association who is or has been a principal or an assistant principal of an elementary school, or who is or has been officially engaged in supervision of instruction in elementary schools, shall be eligible for membership in the Department of Elementary School Principals.

## Article III.—Officers

(a) The officers of the Department shall be the President, two Vice-Presidents, the Secretary, the Treasurer, and three Commission Chairmen.

(b) The officers of the Department, with the exception of the Commission Chairmen, shall hold office for the period of one year from the date of election.

(c) The officers of the Department shall constitute the Executive Board, with a representative of the Michigan Education Association and the Chairman of the Planning Committee as ex officio members.

(d) The Commission Chairman shall hold office for three years, one member retiring each year. The candidate receiving the largest number of votes at the first election shall serve three years, the next largest number, two years, and the unexpired term of the present member of the Executive Committee shall be fulfilled as Commission Chairman for the one-year term.

(e) Officers shall take office immediately following the meeting at which the election takes place.

#### Article IV.—Method of Amending the Constitution or By-Laws

(a) An amendment to the Constitution or By-Laws may be proposed by the Executive Board or by petition of at least ten regular members of the Department.

(b) Two-thirds of the votes of the members present in a regular session will be necessary to make the proposed amendment a part of the Constitution.

#### Article V.—Elections

(a) Election of officers shall take place at the annual meeting.

(b) Election shall be by ballot.

(c) Members only are entitled to vote.

(d) A nominating committee of five members, appointed by the President, shall nominate at least one candidate for each office to be filled. Nominations from the floor will be permitted.

### BY-LAWS

#### Article I.—Fiscal Year

The fiscal year shall be from July 1 to June 30.

#### Article II.—Annual Meeting

The Annual Meeting shall be held on the first Friday in May, with the hour and the place being determined by the Executive Board.

#### Article III.—Dues

The annual dues shall be \$1.50 (one dollar and fifty cents), due and payable on October 1.

#### Article IV.—Committees

There shall be the following standing committees and such other special committees as the President shall appoint: Nominating Committee, Auditing Committee, Planning Committee, and Resolutions Committee.

##### (a) NOMINATING COMMITTEE:

The members of the Nominating Committee shall be appointed by the President at least thirty days in advance of the Annual Meeting.

##### (b) AUDITING COMMITTEE:

The Auditing Committee shall consist of three members appointed by the President to audit the books of the Department at the close of the fiscal year and submit a report at the next following meeting of the Executive Board.

##### (c) RESOLUTIONS COMMITTEE:

The Resolutions Committee shall consist of three members appointed by the President.

##### (d) THE PLANNING COMMITTEE:

The Planning Committee shall consist of:

1. The President of the Department (ex officio).

2. The Secretary of the Department who will act as secretary of the committee.

3. A representative of the Michigan Education Association (ex officio).

4. Four members appointed by the President of the Department for four years each; one new member being appointed each year.

No member of this committee who has served a full term is permitted to succeed himself.

This committee shall advise and make recommendations to the Executive Board as to the continuity and integration of the Department's program, including recommendations relative to the subject of the Department's yearbooks and the personnel of yearbook committees.

### Article V.—Officers

(a) The President shall preside at all meetings of the Department, call meetings of the Executive Board at his pleasure or upon written request of three of its members, sign all orders on the treasurer, appoint such committees as provided by the Constitution and By-Laws and others as may be deemed necessary, and perform such other duties as may from time to time devolve upon him. He shall be an ex officio member of all committees.

(b) The First Vice-President shall, in the absence of the President of the Department, perform all duties of the office.

(c) The Second Vice-President shall act as Membership Chairman and shall be empowered to appoint members of his committee.

(d) The Secretary shall perform the duties usual to his office. He shall be secretary of the Executive Board and of the Planning Committee. He shall prepare and keep an accurate list of the members of the Department and their post office addresses.

(e) The Treasurer shall collect and have custody of all the funds of the Department, which shall be deposited in the name of the Department in an institution approved by the Executive Board. He shall pay out funds only on order of the President. He shall keep the accounts of the Department and before the Annual Meeting shall make an itemized report in writing of all receipts and expenditures, and he shall perform such other duties as may from time to time devolve upon him.

(f) The Commission Chairmen shall appoint the members of their Commissions subject to the approval of the Executive Board. The Commission Chairmen shall conduct and report such studies and investigations as determined and assigned by the Executive Board, and for such periods of time as shall be designated by it.

(g) The Executive Board shall be regarded as the administrative body of the Department subject to the call of the President. The Executive Board shall, by a majority vote of its members, fill all vacancies, except that of the President, which is provided for in the Constitution.

### Article VI.

All other points not specifically covered by this Constitution and By-Laws shall be governed by "Robert's Rules of Order."

# Membership, 1940-41

## NAME, SCHOOL, AND CITY

Albert, Jessie, Mrs.—Froebel, Muskegon  
 Alexander, Loretta—Boynnton, Detroit  
 Allen, J. C.—Oak Park, Traverse City  
 Allmendinger, W. H.—Greenfield Park, Detroit  
 Althuis, Verna—Froebel, Holland  
 Alward, Marian—Vetal, Detroit  
 Anderson, Elsie—King, Detroit  
 Anderson, Jennie—Lewis, Flint  
 Anderson, Mildred—High St., Lansing  
 Andries, Ida—Richard, Detroit  
 Andrus, Beatrice—Hubert, Detroit  
 Anger, Byron—Fifth Ward, Big Rapids  
 Anthony, Barbara K.—Wealthy St., East  
   Grand Rapids  
 Archbold, Irma—Hillcrest, Kalamazoo  
 Arehart, Ira J.—Robinson, Detroit  
 Armistead, E. A.—Barber, Highland Park  
 Armstrong, Donald—Alger, Detroit  
 Atwood, Wyla W.—Garfield, Flint  
 Bachmann, Sophie C.—Majeske, Detroit  
 Bacon, Meda—Eastern Ave., Grand Rapids  
 Bader, Edith—Ass't Supt., Ann Arbor  
 Bailey, Fred—Palmer, Grand Rapids  
 Bammel, Romelda—Trombley, Bay City  
 Barnes, Marcellene—Oakdale, Grand Rapids  
 Barnhart, Helen—Walnut St., Lansing  
 Barton, Lula—Oak St., Dowagiac  
 Bastian, Mame—Emerson, Saginaw  
 Batcke, Alice—G. M. Morley, Saginaw  
 Bates, Helena—Parker, Detroit  
 Beach, Gertrude—Wever, Willis, Owen, Mal-  
   kin, Pontiac  
 Beattie, Grace—Barxhausen, Detroit  
 Beck, Carl G.—Bagley, Detroit  
 Beckett, Mary—Lincoln, Bay City  
 Beckman, Edith A.—Alger, Detroit  
 Begole, Jenniebelle—Clinton, Detroit  
 Bellis, John H.—Winterhalter, Detroit  
 Bell, Jewell—Starkweather, Plymouth  
 Berg, Cora E.—Roosevelt, Muskegon Heights  
 Bessolo, Abraham—Ford, Detroit  
 Bigelow, Blanche—Willow St., Lansing  
 Birkam, George A.—Coolidge, Detroit  
 Bishop, Ethel, (Mrs.)—Perrin, St. Johns  
 Blackman, Ruth—United Oaks, Hazel Park  
 Blakeslee, Avis—Wanda, Hazel Park  
 Bloodgood, Neil—Lincoln, Lansing  
 Bock, Pauline—S. Washington, Owosso  
 Bolton, Frederick—Barstow, Detroit  
 Booth, Evelyn—Hamilton, Detroit  
 Boston, Fannie E.—Custer, Detroit  
 Bott, Helen—Hanneman, Detroit  
 Bowen, Harold—Berry, Detroit  
 Bradley, Fannie—Kearsley, Flint  
 Braude, Esther—D. Houghton, Detroit  
 Brewbaker, George—Oakridge, Royal Oak  
 Brewer, F. M.—Elmwood, Traverse City  
 Brewer, Jessie M.—Longfellow, Pontiac  
 Broehm, Clara—O. W. Holmes, Detroit  
 Brogger, Elsie—Clark, Detroit  
 Brovont, Dean W.—Union, Traverse City  
 Browe, Herman—Ass't Supt., Detroit  
 Browe, Walter—Maybury, Detroit

## NAME, SCHOOL, AND CITY

Brown, Harold E.—Smith, Detroit  
 Brown, Marie—Lincoln, Battle Creek  
 Brown, Mary M.—Balch, Detroit  
 Buckley, Dorothy—Angell, Ann Arbor  
 Budde, N. J.—Vine, Kalamazoo  
 Burgwin, Mignon—Harris, Detroit  
 Burk, Helen—Lillibridge, Detroit  
 Burke, Alice M.—Central, Pontiac  
 Burns, Helena—Newton, Detroit  
 Burns, Hortense—Higgins, Detroit  
 Burt, Ethel—Law, Detroit  
 Buxton, Elaine—Noble, Detroit  
 Califf, Pauline (Mrs.)—Fountain, Grand  
   Rapids  
 Callahan, Eleanor—Nichols, Detroit  
 Campbell, Charlotte—Columbian, Ferndale  
 Carey, Thomas—Trombly, Detroit  
 Carlson, Eileen—Davison, Detroit  
 Carpenter, Ralph—Trowbridge, Detroit  
 Carroll, Agnes W.—Fitzgerald, Detroit  
 Carroll, Jean—Hubbard, Detroit  
 Carter, Winifred J.—Grant, Detroit  
 Castle, Eunice—Lindberg, Muskegon Heights  
 Caswell, Inez—MacCulloch, Birmingham  
 Cathcart, Florence—Elem. Supervisor, Davi-  
   son  
 Charbonneau, Anna M.—D. Houghton, Detroit  
 Chase, Martha B.—Bennett, Jackson  
 Church, Frank—Irving, Detroit  
 Clark, Lee—Martin Rd., Hazel Park  
 Cleveland, J. Arlene—Wilson, Pontiac  
 Clow, Jennie—Poe, Detroit  
 Coates, Elizabeth—Homedale, Flint  
 Coll, Dorothy—Grayling, Detroit  
 Collar, Lovina—Holbrook, Hamtramck  
 Collins, Florence—Whittier, Pontiac  
 Collins, Oard—Ravenswood, Detroit  
 Cooney, Joseph—Priest, Detroit  
 Cortright, Frances—Griswold, Jackson  
 Cousins, Esther J.—Stephens, Detroit  
 Cowe, Ethel J. (Mrs.)—Trombly, Grosse  
   Pointe  
 Cox, Agnes L. (Mrs.)—McCarroll, Pontiac  
 Craven, Sadie—Roosevelt—Redford Twp.,  
   Detroit  
 Creswell, Grace—Webster, Detroit  
 Crosby, Bertha—Sampson, Detroit  
 Crose, Sydney—Burbank, Detroit  
 Crysler, Rose—Courville, Detroit  
 Cummings, Jennette—Washington, Royal Oak  
 Curtis, Eva—Dort, Flint  
 Curtiss, Dale—Washington, Detroit  
 Curtiss, Florence E.—Lyster, Detroit  
 Davis, Ethel A.—Foster St., Lansing  
 Davis, Irene—Parke, Detroit  
 Davison, Ethel—T. Houghton, Detroit  
 Dawson, Dorothy—Crosman, Detroit  
 Dawson, Edwin—Guest, Detroit  
 Dietz, Ildiefontz (Mrs.)—Gardner, Albion  
 DeManigold, Mary—Ferry, Detroit  
 Dixon, W. E.—O. W. Holmes, Detroit  
 Doerr, Georgia—Cedar St., Lansing  
 Doherty, Mary C.—Parker, Detroit

## NAME, SCHOOL, AND CITY

Donlin, Verna—Stellwagen, Detroit  
 Donovan, Alice—Rose, Detroit  
 Donovan, Florence—Finney, Detroit  
 Dorland, Ida—Dolsen, Bay City  
 Doty, Nina E.—Wisner, Pontiac  
 Dowd, Elnora—Jefferson, Grand Rapids  
 Doyen, Gertrude—Kennedy, Detroit  
 Drouin, Alice—Monnier, Detroit  
 Dunn, Ida—Cadillac, Detroit  
 Durham, Louisa—Lakeview, Battle Creek  
 Durham, Mabel—Trombly, Detroit  
 Eaton, Ruth—Woodward, Kalamazoo  
 Ebaugh, Raymond—Starr, Royal Oak  
 Edgar, Gladys—Parkland, Flint  
 Edstrom, Helga—Edgewood, Muskegon Heights  
 Egeler, Ethel—Ellis, Detroit  
 Elsele, Irene—Fremont, Battle Creek  
 Elliot, Keith—Verona, Battle Creek  
 Elliot, Myrtle—Washington, Sault Ste Marie  
 Ellsworth, Bert—Russell, Detroit  
 Estabrook, Eudora—Diamond, Grand Rapids  
 Fachinetti, Terezina—Newberry, Detroit  
 Faner, Kathryn—Zimmerman, Flint  
 Falvey, Stella—Barstow, Detroit  
 Feaheny, Adele—Marr, Detroit  
 Fee, Lena—Moore, Saginaw  
 Fey, Marguerite—Whitmore-Bolles, Dearborn  
 Fish, Maud—Lexington, Grand Rapids  
 Fisher, Ruby—Franklin, Coldwater  
 Fleming, Jennie M.—Roosevelt, Detroit  
 Fogg, Lucy C.—Trumbull, Jackson  
 Ford, Marion—Mackenzie, Detroit  
 Forner, Robert—Logan, Detroit  
 Forsman, Bertha—Goodale, Detroit  
 Fouch, Jennie B.—Edison, Kalamazoo  
 Frederick, Magdalene—Quarton, Birmingham  
 Froh, Alma—Lynch, Detroit  
 Fuller, J. Burns—Moore, Detroit  
 Gasner, Helen—H. A. Salisbury, Dearborn  
 Gay, Clara E.—East Leonard, Grand Rapids  
 Gifford, Ilah—Burt, Detroit  
 Gilbert, Maud E.—McKinley, Bay City  
 Gilday, Jane—McFarlane, Detroit  
 Gill, Cleo—Leland, Detroit  
 Gladden, Theron—Davison, Detroit  
 Gonne, Edith—Campau, Detroit  
 Goodson, Isabel—Bailey, Pontiac  
 Gordon, Ethel—Arthur, Detroit  
 Graham, Albert A.—Duffield, Detroit  
 Graham, Eunice—Washington, Detroit  
 Green, Gary—Roosevelt, Battle Creek  
 Green, Loa—A. T. Donaldson, Mt. Clemens  
 Green, Tamar—Webster, Detroit  
 Greenbaum, Bertha B.—Alger, Grand Rapids  
 Gregory, Arnold C.—Raupp, Lincoln Park  
 Grishow, Ethel—Prairieview, Battle Creek  
 Grogg, Harry—Clippert, Detroit  
 Guilloz, Mabelle—Atkinson, Detroit  
 Gummerus, M. K.—Couvville, Detroit  
 Haessly, Louis—Capron, Detroit  
 Haley, Nelle—Dir. Elem. Educ., Saginaw  
 Hall, Isabell—Cerveny, Detroit  
 Halladay, Inez—Barnes Ave., Lansing  
 Hamlin, Charlotte—Maybee, Detroit  
 Hanlon, Eunice—Higgins, Detroit  
 Hardle, Frances S.—Noble, Detroit

## NAME, SCHOOL, AND CITY

Hardy, Minnie C.—Burton, Detroit  
 Harmon, Laura—Emerson, Owosso  
 Harper, Edith—Corbin, Bay City  
 Harris, Zita A.—McCulloch, Detroit  
 Hartung, Urban, Jr.—Scripps, Detroit  
 Hathaway, Grazia—McKinley, Dowagiac  
 Haupt, Hazel—Lincoln, Holland  
 Hawes, Carolyn—Washington, Holland  
 Hayward, Georgia (Mrs.), St. Louis  
 Healy, Oliver—Lincoln, Detroit  
 Hedrick, Ethel—Bach, Ann Arbor  
 Heeren, Roy—Dwyer, Detroit  
 Henchey, Leona—Newberry, Detroit  
 Hilborn, Clara—Pierson, Flint  
 Hirshman, Ester B.—Irving, Detroit  
 Hobart, Herbert—Marie, Grosse Pointe  
 Hodges, Duncan—Cooper, Royal Oak  
 Holland, Mary—Doty, Detroit  
 Holt, Gilbert—Burton, Detroit  
 Honeysette, Bethel—Hillcrest, Kalamazoo  
 Horgan, Mary—Hosmer, Detroit  
 Horton, Jeanette (Mrs.)—Garfield, Wyandotte  
 Hosner, Marion—Bagley, Detroit  
 Houghton, Alice—Whittier, Bay City  
 Howlett, Helen—Howe, Detroit  
 Hoyt, Cleo—Madison, Grand Rapids  
 Hubbard, Evelyn—Nichols, Detroit  
 Ihrman, Hermine—Van Raalte, Holland  
 James, Elsie—Dewey, Flint  
 Janavac, Nellie (Mrs.)—Oak View, Muskegon  
 Jennings, Elsie—McKinley, Detroit  
 Johnson, Grace—Auxiliary, Grand Rapids  
 Johnson, Harry—Capron, Detroit  
 Johnston, Inez—Webster, Brightmoor  
 Jones, Etta F.—Henry, Grand Rapids  
 Jones, Robert W.—Washington, Wyandotte  
 Jose, Mamie E.—Pleasant, Jackson  
 Junth, Gladys—Turner, Detroit  
 Kane, Ruth—Marshall, Detroit  
 Kanstanzer, Mildred—Berry, Mt. Clemens  
 Kelly, Ethel M.—Doyle and Stevenson, Flint  
 Kemp, Maude E.—Bennett, Detroit  
 Kent, Ina (Mrs.)—Hudson Covert, Pontiac  
 Kepperling, Inez—Harding, Detroit  
 Kerby, Fred J.—Defer, Grosse Pointe  
 Kerwin, Sophie E.—Ruddiman, Detroit  
 Kerwin, Winifred—McKinstry, Detroit  
 Ketcham, Alice E.—Cooke, Detroit  
 Kilander, Pansy—Holcomb, Detroit  
 King, Dorothea—Burt, Detroit  
 Kison, Gladys—Bluffton, Muskegon  
 Klaussen, Doris—Ann J. Kellogg, Battle Creek  
 Knapp, Margaret—Christianity, Lansing  
 Knighton, Edward J.—Breitmeyer, Detroit  
 Knowles, May B.—Wilson, Jackson  
 Kraatz, M. M. Terry—Marr, Detroit  
 Kroll, Elfield—Palmer, Detroit  
 Krug, Marguerite—Sill, Detroit  
 Kuhn, Florence—Williams, Detroit  
 Kull, Charlotte—St. Clair, Detroit  
 Laing, Bernice—Hancock, Detroit  
 Laing, Earl R.—Burt, Detroit  
 Lakie, Isabel—Monteith, Detroit  
 Lannin, Jean—Angell, Detroit

## NAME, SCHOOL, AND CITY

Lawrence, Anna R.—Garfield, Bay City  
 LeBost, Anna—Pierce, Detroit  
 Lechler, Rhoda—Hampton, Detroit  
 Leteker, Alice—Macomb, Detroit  
 Levis, Luetta—Maybury, Detroit  
 Lewis, Ruth—Nelson, Muskegon  
 Lindquist, Essie—Moores Park, Lansing  
 Llvie, Edna—Howe, Detroit  
 Livingstone, Ruby—Hall, Grand Rapids  
 Locher, Marie—Crosman, Detroit  
 Lockwood, Glenn O.—Ann Visger, River  
 Rouge  
 Lockwood, Jack—Central, Ypsilanti  
 Loftis, Grace E.—South Park, Muskegon  
 Heights  
 Long, Marjorie—Hoover, Hazel Park  
 Lown, Venna—Ruthruff, Detroit  
 Lucas, William C.—Crofoot, Pontiac  
 MacDonald, Ralph—Washington, Bay City  
 MacKenzie, Margaret—Glendale, Muskegon  
 Heights  
 MacMahon, Mary—Dixon, Detroit  
 McAdam, Alice—Franklin, Detroit  
 McCallum, Jessie—Beard, Detroit  
 McCarthy, Julia—Crary, Detroit  
 McConnell, Clara E.—Burns, Detroit  
 McDevitt, Rosabelle—Priest, Detroit  
 McDonald, Lucille—Marcy, Detroit  
 McDougall, Josephine—Fairview, Flint  
 McEdwen, Vera D.—McKerrow, Detroit  
 McGavock, Leonora—Handley, Saginaw  
 McGinnis, Mary D.—McConnell, Pontiac  
 McGuinness, Mary—Wilkins, Detroit  
 McGuire, Ida—Beaverton Rural Agric.  
 Beaverton  
 McKinney, Rachel—Columbian, Detroit  
 McLaughlin, Charles—Ruddiman, Detroit  
 McLaughlin, Leo—Higginbotham, Detroit  
 McLean, Marjorie—Monteith, Detroit  
 McLean, W. A.—Urbandale, Battle Creek  
 McLeod, Lena—Cook, Flint  
 McMahon, Rachel—Custer, Detroit  
 McMillan, Irene—White, Detroit  
 McSweeney, Mary—Macomb, Detroit  
 McVean, Gertrude—Webster, Pontiac  
 Machay, Mary—Bellevue, Detroit  
 Maher, Julla—Pasteur, Detroit  
 Mahony, Mary M.—Norvell, Detroit  
 Mandigo, Jennie—McCulloch, Jackson  
 Marcereau, Zella—Oakman, Detroit  
 Marks, Desdemona—Dickinson, Grand Rapids  
 Marlin, Hazel—Cerveney, Detroit  
 Marsh, Lettie A.—West Leonard and Sibley,  
 Grand Rapids  
 Martin, Thekla—Wayne, Detroit  
 Mason, Bertha H. (Mrs.)—Lafayette, Grand  
 Rapids  
 Mayrend, Earl—Moore, Detroit  
 Menger, Hilda—Allen St., Lansing  
 Merrill, Teresa—East School, St. Johns  
 Messner, Clarence J.—Richard, Grosse  
 Pointe  
 Miller, Mabel—McMillan, Detroit  
 Miller, William—Henry Ford, Highland  
 Park  
 Mitchell, Estelle—Coolidge, Detroit  
 Mitzelfeld, Lucy—Chaney, Detroit

## NAME, SCHOOL, AND CITY

Monroe, Thomas—Noble, Detroit  
 Moore, Beatrice M.—Central, Muskegon  
 Heights  
 Morse, Mabel—Estabrook, Detroit  
 Mumaw, Alda—Durand, Saginaw  
 Mumford, E. H. E.—Ferris, Highland Park  
 Munroe, Jessie—No. 1 School, Ecorse  
 Munson, Eva—Guyton, Detroit  
 Murphy, Anna—No. 2 School, Ecorse  
 Murphy, Ruth—Webber, Saginaw  
 Mygatt, Cynthia—Greenfield Union, Detroit  
 Nehil, Anne—Thomas, Detroit  
 Nelson, Marie—Martin, Flint  
 Netzarg, Sadie—Holcomb, Detroit  
 Neu, Marjorie—Robinson, Detroit  
 Newell, Edith—Central, Owosso  
 Newstead, Winona—Ford, Detroit  
 Nill, Louise—Pierce, Detroit  
 Norrback, Ina—Oak Park, Lansing  
 North, Clemence—Edison, Detroit  
 Norton, Mae—Garfield, Detroit  
 Obel, Henry—Moore, Detroit  
 O'Brien, Edna—Park, Bay City  
 O'Dell, Iva—Donelson, Waterford Twp.,  
 Pontiac  
 O'Harrow, Ina—Guyton, Highland Park  
 O'Keefe, Nora—Tilden, Detroit  
 Oliver, Jean—Cooke, Detroit  
 Olson, Marion—McKinley, Battle Creek  
 Osborne, Catherine—Jones, Detroit  
 Osborne, Agnes Weidmann—Von Steuben,  
 Detroit  
 Owen, Allah—Pattengill, Detroit  
 Page, Florence—Mason, Detroit  
 Parkdon, Myrtle—Burns, Detroit  
 Parker, Helen—Gardner, Detroit  
 Parker, Howard—Oxford, Dearborn  
 Parker, Vesta—Bishop, Detroit  
 Pascoe, May—Lincoln, Flint  
 Patterson, Laura—Van Zile, Detroit  
 Payette, Pearl—Franklin, Battle Creek  
 Pearl, Norton H.—Hubert, Detroit  
 Pearson, Carolyn—Civic Park, Flint  
 Peterson, Minnie—Oakman, Detroit  
 Petrie, Harriet—Harms, Detroit  
 Pettitt, Jay S.—McMillan, Detroit  
 Pickett, Lillian—Durant, Flint  
 Pierce, Vernon—Tilden, Detroit  
 Plumb, Alberta—Crary-Lincoln, Saginaw  
 Pope, Charlotte B.—Finney, Grand Rapids  
 Popp, Cleo—Hazelton, Flint  
 Porter, Alta M.—Venona, Bay City  
 Potter, Frances (Mrs.)—Potter, Saginaw  
 Price, Maud—Elem. Supervisor, Monroe  
 Pringle, May R.—Palmer, Detroit  
 Pullman, Lucille—Chandler, Detroit  
 Quinn, Evelyn—Pingree, Detroit  
 Race, George A.—Farragut, Bay City  
 Raine, Ida M.—Jefferson, Battle Creek  
 Randall, Leo M.—Hally, Detroit  
 Raynor, Florence—Coffey, Detroit  
 Reaume, Rhoda—Clinton, Detroit  
 Reed, Lula A.—Elem. Supervisor, Jackson  
 Reeves, Erma Engel—White, Detroit  
 Renton, Janet—Atkinson, Detroit  
 Reynolds, O. Dale—Sampson, Detroit  
 Rietzkat, Bertha—Preston, Detroit  
 Rietzkat, Marie—Hally, Detroit

NAME, SCHOOL, AND CITY	NAME, SCHOOL, AND CITY
Riley, Etta—Hosmer, Albion	Starling, Mabel—Maybee, Detroit
Ritchie, Grace E. (Mrs.)—Stocking, Grand Rapids	Stauck, Rose K.—Dickinson, Hamtramck
Robertson, Florence—Cody, Flint	Staudacher, Ethel—Kolb, Bay City
Robinson, Alice E.—Pattengill, Detroit	Steeds, Ivah—McGraw, Detroit
Robinson, Eva E.—N. Intermed., Saginaw	Steger, Gertrude—Van Zile, Detroit
Robinson, Miles—Barnum, Birmingham	Stemmelen, Owen—Higginbotham, Detroit
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Ross, Margaret—Washington, Battle Creek	Sweeney, B. Angela—Campau, Detroit
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Sage, Marie—Columbian, Detroit	Trombley, Roberta—Coolidge, Detroit
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Schaibly, Colon—Roosevelt, Kalamazoo	Tuomey, Margaret—Leslie, Detroit
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Sherman, Edna Ione—Edison, Detroit	Weideman, Mathilde—Chandler, Detroit
Shmel, Vesta—Grand Rapids	Welch, Edith—Craft, Detroit
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Sievewright, Agnes—Poe, Detroit	Westfall, Mrs. Laura—Cary, Big Rapids
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 Ampro Corporation—2839 N. Western Ave., Chicago, Ill.  
 Anchor Line—89 Broad St., New York, N. Y.  
 Association of School Film Libraries, Inc.—Time and Life Bldg., 9 Rockefeller Plaza, N. Y.  
 Audio-Film Libraries—661 Bloomfield Ave., Bloomfield N. J.  
 Audiofilms—Box 27, South Berkeley, Cal.  
 Bailey Film Service—1651 Cosmo St., Hollywood Cal.  
 Bausch & Lomb Optical Co.—Rochester, N. Y.  
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 California, University of; Extension Division, Department of Visual Instruction—301 California Hall, Berkeley, Cal.; 815 S. Hill St., Los Angeles, Cal.  
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 Chicago Tribune—Chicago, Ill.  
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 Department of Interior, United States—Washington, D. C.  
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 Frith Films—P. O. Box 565, Hollywood, Cal.  
 General Films, Ltd.—1924 Rose St., Regina, Saskatchewan, Canada  
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Institute of Pacific Relations—American Council, 129 E. 52nd St., New York, N. Y.

International Geographic Pictures—52 Vanderbilt Ave., New York, N. Y.

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Keystone View Co.—Meadville, Pa.

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McCrary Studios, John R.—130 W. 46th St., New York, N. Y.

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New York University, Educational Film Institute—Washington Square, New York, N. Y.

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Ohio State Department of Education—Columbus, Ohio

Pan American Union, Federal Security Agency—Washington, D. C.

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United States Film Service—Federal Security Agency—Commercial Bldg., 14th & G Sts., N. W., Washington, D. C.

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Women's Bureau, United States Department of Labor—Washington, D. C.

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